PRINTING EQUIPMENT

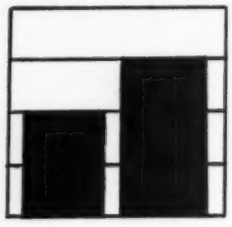
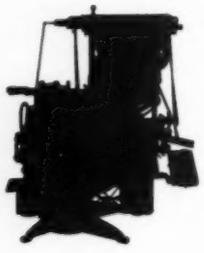
More Presses for Business Forms Field (SEE PAGE 5)

Masking in the Graphic Arts

Kable Equips with Sheet Cleaners

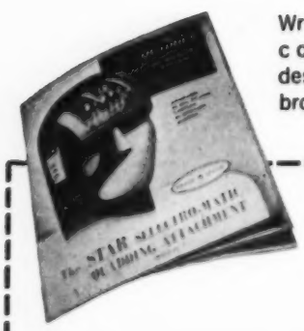
Northwest Group Scrutinizes Newspaper Operations

Please Pass On To:

increase centered *composition by over*  *50% with a Star* *Selectro-Matic Quadder on your present*  *linecasting machine!*

The investment is nominal, when compared to new-machine cost, yet you obtain the output of a machine and a half. No additional floor space is required and there is no increase in your overhead. Your investment in the Selectro-Matic Quadder is never lost.

If your line-casting machine is replaced, the Star Quadder can be installed on the new machine as quickly as it was originally applied. Install a Star Selectro-Matic Quadder and watch your production rise while your costs remain constant.



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STAR PARTS, Inc.
Precision TRADE ★ MARK Parts
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For More Information Circle 132 on Reader Service Card

STA-HI MASTER MATCHER

STA-HI FIDELITY

In Newspaper

COLOR REGISTER

STA-HI MASTER TRIMMER

You get FAITHFUL REPRODUCTION of R.O.P. color copy when you register your stereotype mats with this precision Sta-Hi equipment:

The Master Matcher—for checking, correcting or originating accurate register in the mats. You do this quickly, simply, "with mirrors" that enable you to superimpose the images of actual printing areas. It's like being able to hold two mats up to the light and "look through them".

The Master Trimmer—for uniformly trimming head, foot and ring gauge edges of these same mats, using the register established in the Master Matcher, and making possible uniformly cast plates, in very close register when they go on the presses.

Write for our booklet on "Stereotype Color Register".

STA-HI CORPORATION

. . . probing new horizons in newspaper production

FACTORY AND OFFICES: 235 W. WASHINGTON BOULEVARD, WHITTIER, CALIFORNIA

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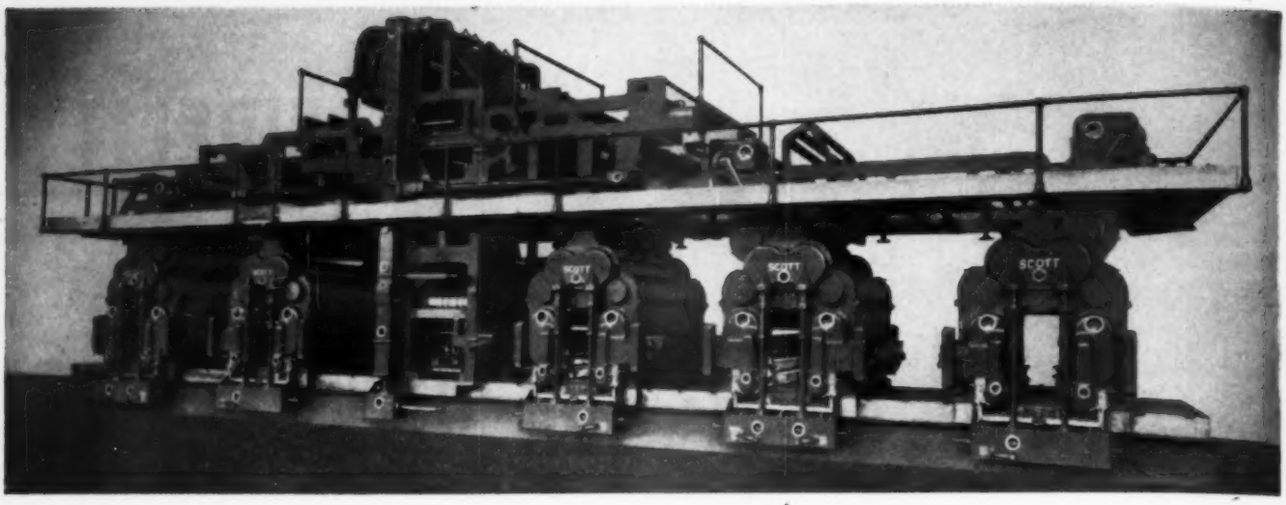


THE DALLAS TIMES HERALD (TEXAS)

THIS 5 UNIT SCOTT PRESS IS EQUIPPED WITH THE LATEST IMPROVED SCOTT 128 PAGE 3 TO 2 RATIO (FOLDED EDGE FORWARD) FOLDER AND UPPER FORMERS.

COLOR PRINTING

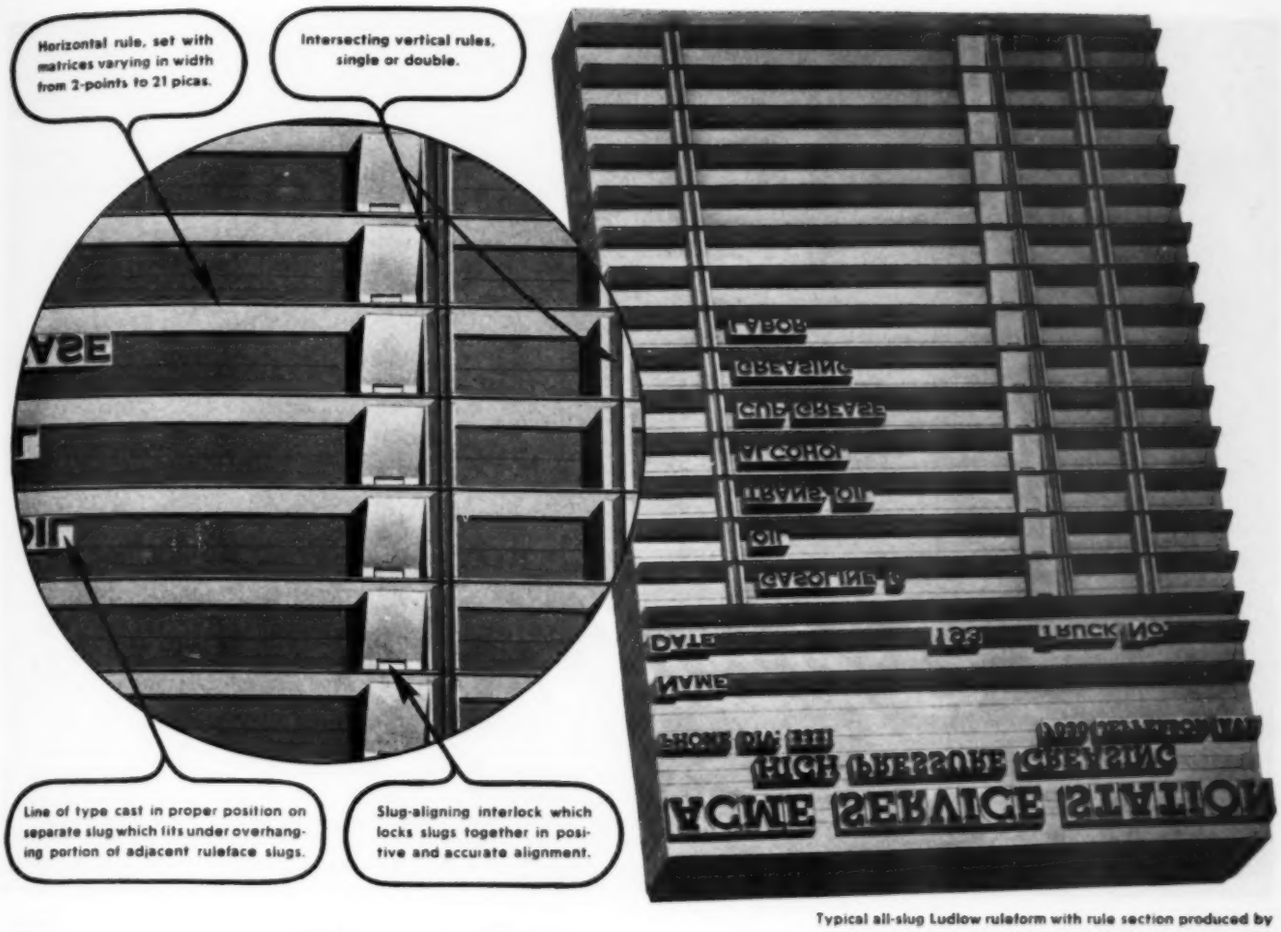
FOR either spot color or 4 colors, this Press has two double reverse drives and three single reverse drives, six built-in full width divided Color Fountains and three color plate cylinders. Each unit is driven by two upright shafts. By a single throw of a lever, one half of the unit may be rendered non-operative or reversed and all gears remain in perfect mesh. Color adjustment on all units is waist high without any electrical apparatus. There are many new and tested features on this latest installation.

WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

5-56-9A

For More Information Circle 124 on Reader Service Card


Horizontal rule, set with matrices varying in width from 2-points to 21 picas.
Intersecting vertical rules, single or double.
Line of type cast in proper position on separate slug which fits under overhanging portion of adjacent ruleface slugs.
Slug-aligning interlock which locks slugs together in positive and accurate alignment.
ACME SERVICE STATION

Typical all-slug Ludlow ruleform with rule section produced by repeat-casting from one setting of a line of ruleform matrices.

Extra Profits with Ludlow Ruleforms

THE LUDLOW SYSTEM of ruleform composition makes the production of such forms practical and profitable. Problems of fitting and aligning rules and inserting type lines are solved in a radically different yet simple way.

For setting ruleforms, the Ludlow operator is provided with horizontal rule matrices and matrix blocks of different set-widths, which join to form continuous cross-rules without visible breaks. He also has special "intersector" matrices, in which a section of vertical rule the same height as the spacing between lines intersects a short line of horizontal rule. These special Ludlow ruleform matrices are made with watchmaking precision.

Each horizontal line includes a "slug-aligning" matrix, which forms positioning stops beneath the printing surface of the horizontal ruleface. This interlock assures accurate alignment of every ruleslug with the other ruleslugs in the form—also an exclusive Ludlow feature.

From a single setting of a line of Ludlow ruleform matrices, the operator repeat-casts the necessary slugs for the rule portion of the form. Box heads or other typelines are cast in proper position on full-length slugs, and fit snugly under the overhanging portion of adjacent ruleface slugs without interfering with their alignment or fitting. Ludlow ruleform is a solid, interlocking unit.

Ludlow simplicity and ease of production will also enable printers to earn extra profits on general commercial work because of the many operating advantages, of which ruleform composition is only one. Precision-cast, new Ludlow slug composition minimizes make-ready time. Multiple forms, repeat-cast in any quantity from one setting of matrices, shorten press running time and eliminate need for electros. Forms may also be held for future runs.

Write for a free copy of "Ruleform Composition the Economical Ludlow Way," and other information.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

Set in members of the Ludlow Tempo family

For More Information Circle 86 on Reader Service Card

now...even faster drying!

NEW "SPEED KING" INKS GIVE YOU ALL THESE EXTRAS:

EXTRA rapid setting, faster drying

EXTRA press stability and resistance to dryback

EXTRA high finish on coated stocks

EXTRA brilliant finish on enamel, *Kromekote*, *Lusterkote* and C1S label papers

EXTRA sharp, clean printing with ink precision controlled for uniformity

IPI Speed King is a newly improved line of packaged inks for letterpress, thoroughly tested commercially, precision controlled for uniform quality in every can. These inks are ideal for ultra fast setting and drying, and high finish on coated stocks. Larger loads—often full loads—can be run without winding or using excess spray. Yet, with proper stock, Speed King inks give a high finish. Packed in 1 lb. and 5 lb. cans, the line includes the 12 colors most popular with printers and Speed King Halftone Black #94. Order now from your IPI salesman.

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For More Information Circle 74 on Reader Service Card

APRIL 1957
VOLUME 87 NO. 7

PRINTING EQUIPMENT *Engineer*

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields, covering major processes.

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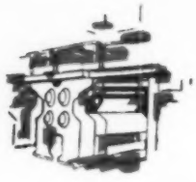
Member Publications BPA Business Audit

Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: A prediction that 220 new presses would be installed in 1957 in the business forms field has been made by an official of PIA's Rotary Business Forms Section (see Page 36). Typical of some of the new business forms presses are those shown in the rotary press department of Reynolds & Reynolds Co., Dayton, O., a leading producer of business forms and systems. Identified in the picture (front to back) are Hamilton, Speed-Flex, ATF Webendorfer and Harris presses. R&R's specialty equipment, only a part of which is shown here, produces some 3500 different stock accounting forms, in addition to thousands of custom-tailored business forms. The firm also maintains plants in Celina, O., Dallas, Tex., and Los Angeles.

The MOST MODERN COLOR-FLEXIBL

the New plant of BUFFALO



30 WOOD METROPOLITAN UNITS

5 WOOD PATENTED FOUR-COLOR UNITS

30 WOOD REELS, TENSIONS AND AUTOMATIC AUTOPASTERS

This installation is arranged to operate as five presses, each capable of producing 96 page papers (with provisions for expansion to 128 pages) . . . 8 pages printed in 3 colors and 2 blacks located in any position within the paper.

EXCLUSIVE WOOD FEATURES WHICH DISTINGUISH THIS MODERN BLACK AND COLOR INSTALLATION

- Waist-High, *mechanical,* Ink Controls for positive adjustment of each key without stooping or kneeling.
- Wood Auto-Tensionclamp Plate Lockup . . . no tools or wrenches required . . . only a finger flip of a small control lever, located on side frames, to lock or unlock plates.
- Utmost color-flexibility possible by placement of Wood Patented Four-Color Units at right angles between two lines of presses. Through the use of *single* turning bar, color web can be placed in any web position, front or rear of folder.
- Continuous film-feed inking system throughout . . . Wood Portable continuous film-feed Ink Fountains for greater color flexibility.
- Heaviest and sturdiest construction guaranteeing the utmost in trouble-free operation . . . with minimum maintenance and lowest operating cost.

PRESS and REELROOM EQUIPMENT for

EVENING NEWS

BUFFALO EVENING NEWS ERECTS NEW PLANT

As part of a long-range plan of expansion, the News will soon occupy a new building. Erected on land which provides parking space, garage and maintenance shops, the newspaper plant, 300' x 325', will house pressroom, reelroom, stereotype department, mail room and covered truck loading docks.

Published six days per week with six daily editions the News averages 56 pages and, in 1952, printed a 128 page edition and frequently runs over 100 pages. In advertising, the News leads all six-day operation papers in New York state and ranks first, nationally, in automotive advertising in this group. Total advertising shows 60% retail, 20% general and 20% classified.

In 1914, when Edward H. Butler became publisher, circulation was 113,000 and, in the next 20 years rose to 188,000. Currently the figure stands at 300,000. The new building is one of the most modern newspaper plants in the country and provision has been made for future expansion to keep pace with anticipated growth in the areas covered by the News.

BETTER LOOKING NEWSPAPERS ARE YOUR BUSINESS—AND OURS!

Architect's rendering of the new plant erected by Buffalo Evening News which will house WOOD Equipment.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N. Y.

MANUFACTURERS OF PRESSES, REELROOM AND STEREOTYPE EQUIPMENT FOR OVER A HALF-CENTURY.

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Buffalo Courier-Express
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Chicago American
Chicago Tribune

Cleveland Press
Columbus Dispatch
Dayton News
Daytona Beach News & Journal
Denver Post
Des Moines Register & Tribune
Detroit News
Dixon Telegraph
Florida Times-Union
Fort Worth Star-Telegram

Green Bay Press-Gazette
Grand Rapids Herald
Honolulu Star-Bulletin
Houston Chronicle
Houston Post
Indianapolis Star & News
Kansas City Star & Times
Los Angeles Examiner
Los Angeles Times & Mirror
Lima News

London Free Press
Louisville Courier-Journal
Miami Herald
Miami News
Milwaukee Journal
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Salt Lake City Tribune

San Francisco Chronicle
San Francisco Examiner
Seattle Post-Intelligencer
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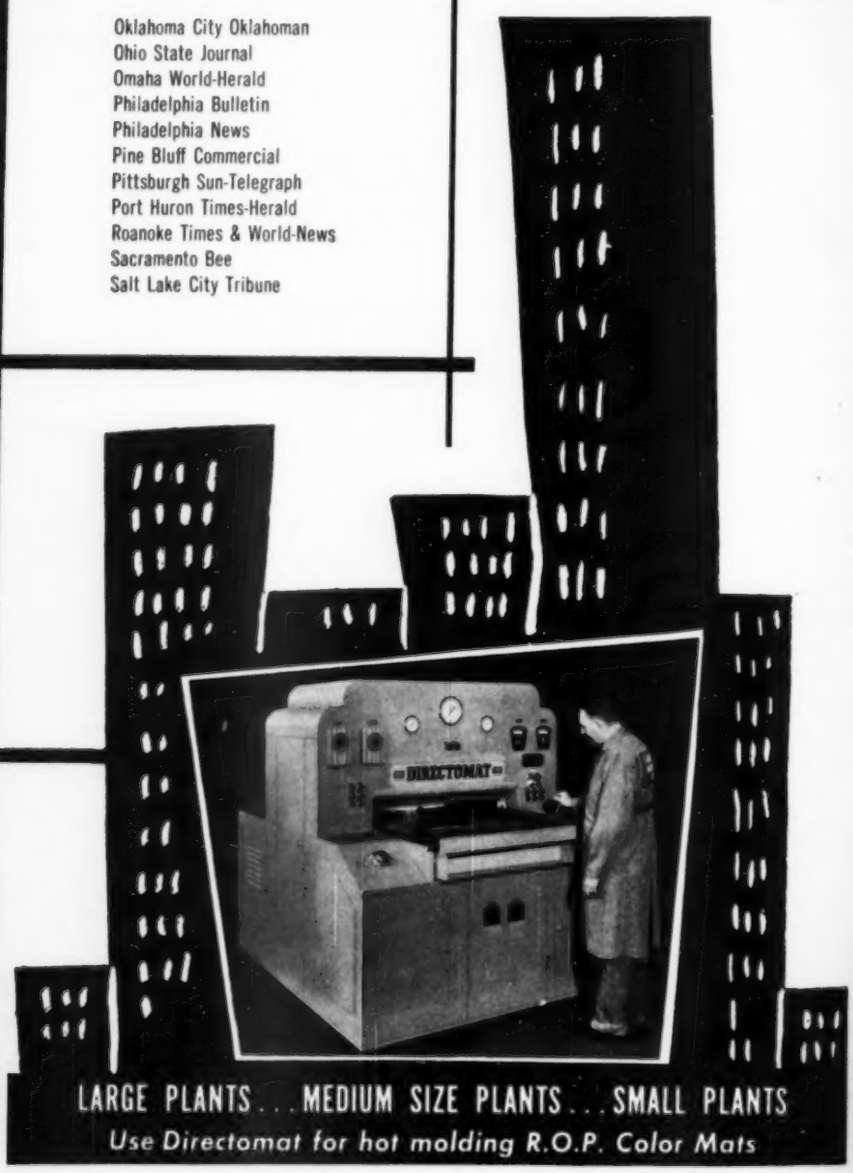

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● *1000-Ton Directomat Illustrated*

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Manufacturers of the Most Complete Line of Hydraulic Presses for All Industry.

LAKE ERIE®
DIRECTOMAT®

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APRIL '57

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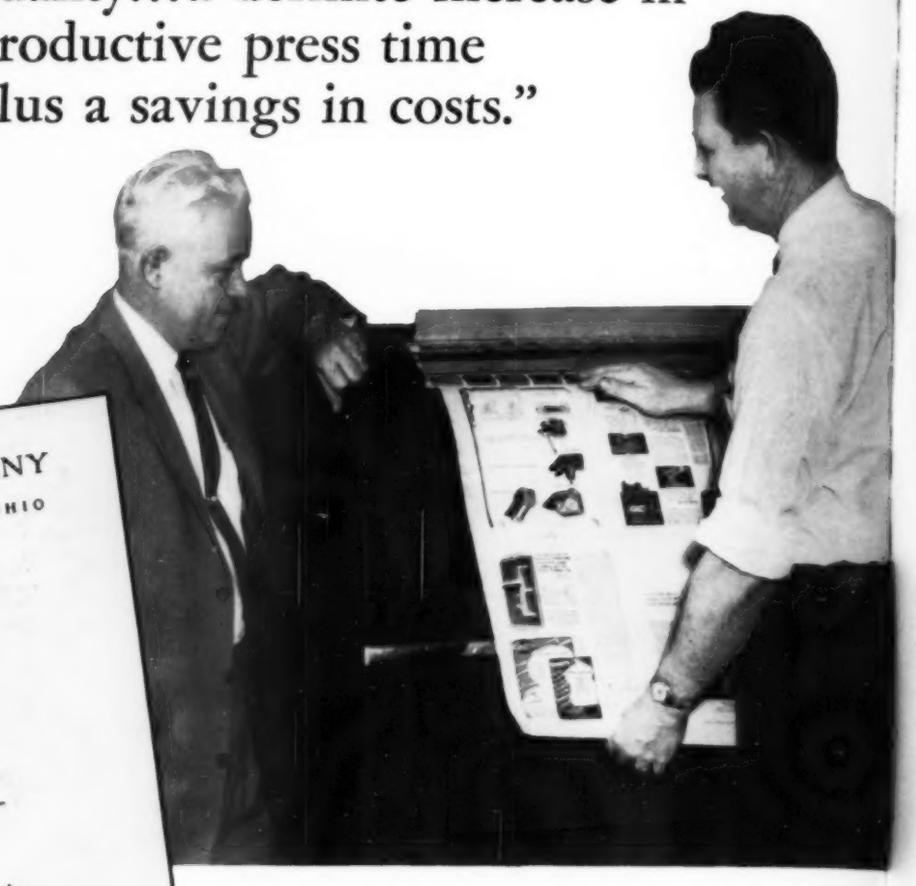
Full details on the next page . . .

3M Makeready case history report:

"Since installing 3M Makeready...we have shown a marked improvement in quality...a definite increase in productive press time plus a savings in costs."



Left: Mr. W. Carl Schafer, Manager, The Press Division, Penton Publishing Company. Right: Mr. Gary Brenner, Asst. Foreman, Pressroom. Shown processing printed 3M MAKEREADY Sheet in Exposure Unit.

THE PENTON PUBLISHING COMPANY
PENTON BUILDING CLEVELAND 13, OHIO

January 23, 1957

Minnesota Mining and Mfg. Company
900 Fauquier Avenue
St. Paul 6, Minnesota

Gentlemen:

Since installing 3M Makeready in our plant over a year ago, we have shown a marked improvement in the quality of our publication printing and - of equal importance - a definite increase in productive press time plus a savings in costs.

Our printing plant operates on a three-shift basis and forms are scheduled for our presses at all hours of the day and night. Prior to the installation of your 3M Makeready, the quality of our press work varied with the skill of the pressman on each press and on each shift. Uniformity of quality of our makereadies is now being attained and of a quality equal to the finest costly hand cut overlays we formerly had.

We are pleased to recommend your 3M Makeready to other printers and publishers.

Sincerely,

W. Carl Schafer, Manager
THE PRESS DIVISION

WCS:lk

PUBLISHER OF STEEL · FOUNDRY · MACHINE DESIGN · NEW EQUIPMENT DIGEST · AUTOMATION

The ability of 3M MAKEREADY to correct difficult middle tones as well as brilliant highlights and full blacks is demonstrated on the reverse side of this insert. You see a prize-winning photograph faithfully reproduced using 3M MAKEREADY!

You realize the full time saving value of 3M MAKEREADY on every job—black and white or color.

If you're interested in superior quality color and black and white work—achieved with amazing time savings—send for the free descriptive folder that tells you about 3M MAKEREADY. Write: Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota.

3M BRAND MAKEREADY

3M COMPANY

"3M" is a registered trademark of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota.
General Export: 99 Park Avenue, New York 16, New York. In Canada: P. O. Box 757, London, Ontario.

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For More Information Circle 117 on Reader Service Card

Equipment & Supplies

If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Equipment Engineer's* Reader Service Card found in this issue.

Portable Lift Table

Southworth Machine Co.'s Model 2000 portable electro-hydraulic lift

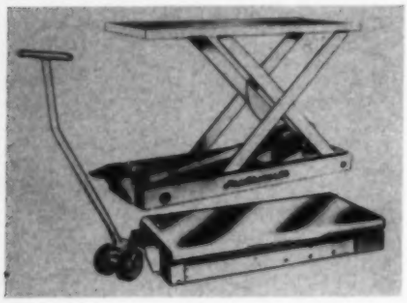
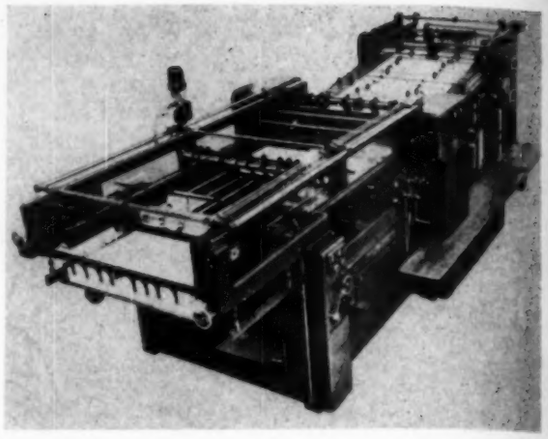


table with a 2000 lb. capacity is a combination variable height work table and dolly. Safety features maintain capacity loads at desired level on either the up or down stroke. When collapsed the table is 6 in. high, 19½ in. wide, and 53 in. long. When extended the table top is 36 in. high. Each unit is equipped with a ½ h.p. electric motor operating on house current which raises or lowers table 1 in. per sec. For further information, please circle No. 274 on the Reader Service Card.

Two-Revolution Press— The 31 in. by 41 in. Tirfing letterpress press has been made available by Tirfing Printing Machinery, Inc. Maximum speed of the Swedish designed and engineered press is 4000 i.p.h. Mechanical features of the two-revolution press include swing grippers; stream feeder; chain delivery; sheet slitting on the press; feeding of all kinds of stock; power driven feed and delivery units. For further information, please circle No. 251 on the Reader Service Card.



New Size TTS Corona

A 9 pt. Teletypesetter Corona type face, especially designed for setting wire service matter in 11 pica column widths, is now available from Mergenthaler Linotype Co. Jackson Burke, Linotype's director of typographic development, said the new type face is characterized by clean cut design that provides good legibility. For further information, please circle No. 264 on the Reader Service Card.

Moore Sigmat Matrices

Jack Moore has announced availability of logotype or signature matrices for use on Intertype, Linotype, Ludlow, Monotype or Thompson line and/or typecasting machines. The engraved design in the matrices may be reproduced from a hand drawn design, photograph, proof, art work or

(*Continued on Page* 14)

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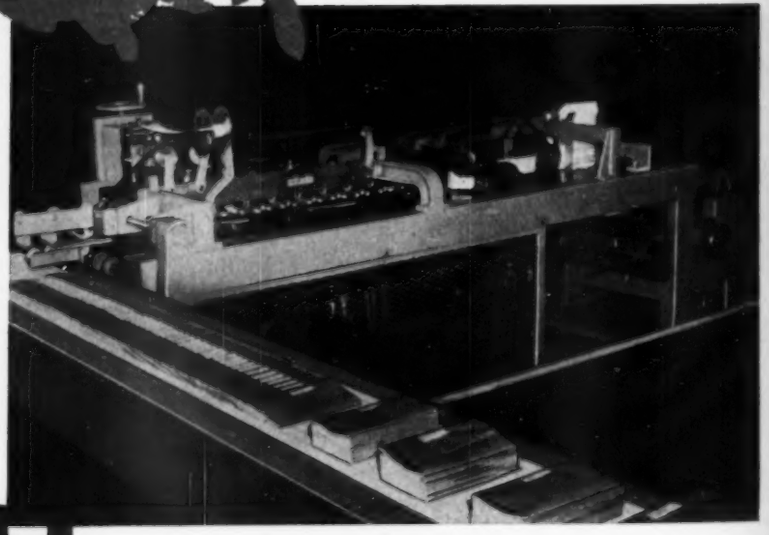
From the Atlantic to the Pacific you'll find the nation's leading publications wrapped and labeled the MAGNACRAFT way. Magazines are wrapped uniformly tight, always neat and sure to be received in attractive condition. Perfect label alignment all the time. **Does the job faster and better than ever before!** Eliminate confusion, messy wrapping, the unpleasant impression of subscribers! So simple to operate anyone can do it.

We can assist you in all your mailing problems, including the furnishing of attachments for your addressing machines to accurately punch the guide holes in the tape at the time of addressing. Write today for more particulars.



MAGNACRAFT MODEL E

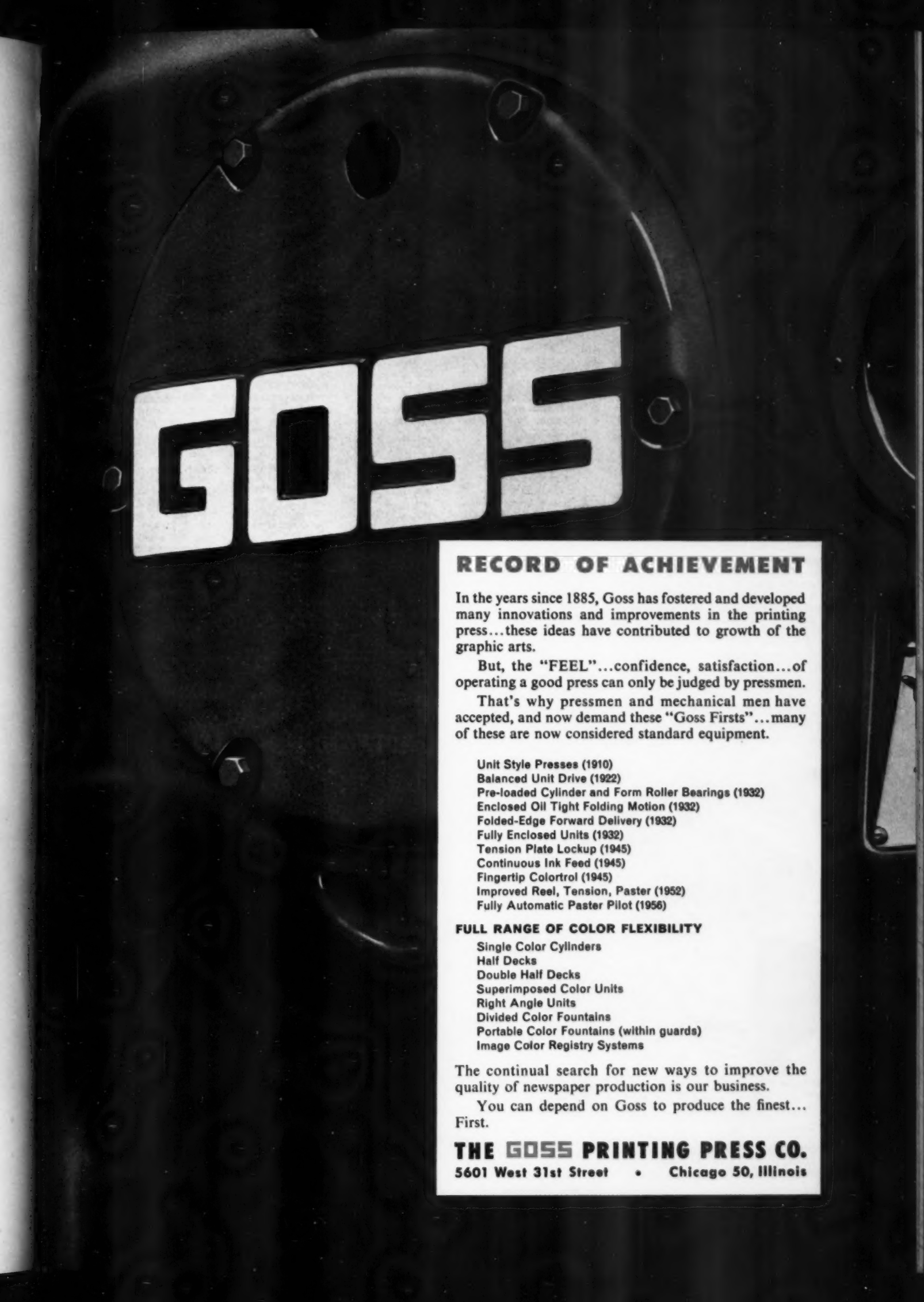
Combination wrapping and labeling machine. Magazines can be wrapped and labeled; wrapped only; labeled only; or labels can be applied to the unwrapped magazine on this high speed heavy duty production machine.

Magnacraft MFG. CO.

3138 W. Chicago Ave.
Chicago 22, Ill.

For More Information Circle 88 on Reader Service Card

For More Information Circle 58 on Reader Service Card→



RECORD OF ACHIEVEMENT

In the years since 1885, Goss has fostered and developed many innovations and improvements in the printing press...these ideas have contributed to growth of the graphic arts.

But, the "FEEL"...confidence, satisfaction...of operating a good press can only be judged by pressmen.

That's why pressmen and mechanical men have accepted, and now demand these "Goss Firsts"...many of these are now considered standard equipment.

- Unit Style Presses (1910)
- Balanced Unit Drive (1922)
- Pre-loaded Cylinder and Form Roller Bearings (1932)
- Enclosed Oil Tight Folding Motion (1932)
- Folded-Edge Forward Delivery (1932)
- Fully Enclosed Units (1932)
- Tension Plate Lockup (1945)
- Continuous Ink Feed (1945)
- Fingertip Colortrol (1945)
- Improved Reel, Tension, Paster (1952)
- Fully Automatic Paster Pilot (1956)

FULL RANGE OF COLOR FLEXIBILITY

- Single Color Cylinders
- Half Decks
- Double Half Decks
- Superimposed Color Units
- Right Angle Units
- Divided Color Fountains
- Portable Color Fountains (within guards)
- Image Color Registry Systems

The continual search for new ways to improve the quality of newspaper production is our business.

You can depend on Goss to produce the finest... First.

THE GOSS PRINTING PRESS CO.

5601 West 31st Street • Chicago 50, Illinois

Equipment & Supplies

(Continued from Page 12)

photostat. These are called Sigmats. Design may be line, cross hatch or reverse. The accompanying Sigmat was cast on a Ludlow machine. Ludlow Sigmats may range from 6 pt. to 96 pt. (1½ in. or less) and can be cast lengthwise the slug if necessary. Sigmats conform in shape and size with the particular matrix body of the machine in which they are to be used.

In case of sans serif lettering in the design, the corners are sharp in harmony with the original design.

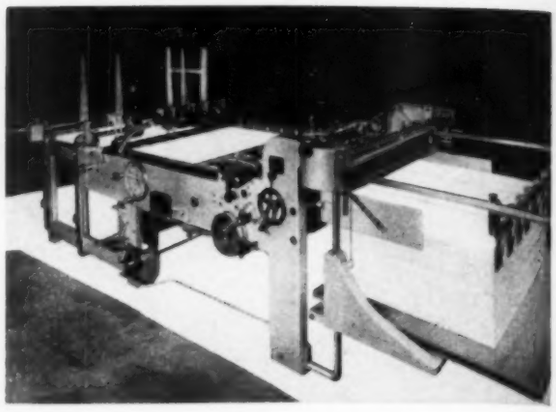
This seal of the State of Ohio was cast on a Ludlow slug with 6 pt. shank. The line design is representative of the reproduction qualities of Sigmats.

Sigmats may be used for repetitive casts in all kinds of imprinting work, such as in bulletin and envelope printing and in newspaper classified ad columns. In one newspaper, a real estate firm sprinkles its advertisements throughout the section. These are cast, in this instance, on the Ludlow machine instead of using small photoengravings. Other uses of Sigmats may be suggested where multiple or repetitive use is necessary.

Moore has also announced availability of steel or magnesium mast heads or large display composition where they are subjected to repeated molding pressures.

For further information, please circle No. 266 on the Reader Service Card.

Three Perforator Models—A line of rotary perforators, manufactured by E. C. H. Will Co., Hamburg, Germany, has been announced by Amsterdam Continental Types and Graphic Equipment, Inc. The three machines, all suitable for scoring, creasing and slitting operations in addition to perforating, include a 24 in. model, one hand fed unit and one automatic unit. The 24 in. rotary slot perforator is available either with its own stand or adapted for bench mounting. The Will AP 2/A (shown in the illustration) is an automatic perforating unit accommodating paper sizes up to 40 in. wide. The AP 2/A is designed for straight-through and multiple striking perforation. The P 2/A machine is hand fed and is used to perform straight-through or multiple striking perforation. For further information, please circle No. 262 on the Reader Service Card.



Improved Big Chief Remelter

An improved Big Chief Remelter has been announced by United American Metals Corp. Featured is a double insulated hood and jacket with new heavy gauge welded steel crucible with ring welded around flange to prevent overflowing of metal. The company also mentions a new stainless steel leakproof bottom pour valve equipped with a hand operated steering wheel for opening and closing valve. Older models of the Big

(*Continued on Page* 16)

we are proud of our "doorknob" turners

Imperial "doorknob turners" are our representatives who service all Imperial type metal users big or small. Only by frequent regular service calls can we know whether your metal needs attention and is getting the service you are entitled to under the Imperial Plus Plan and Service Plan. Tell us when and we'll turn your "doorknob" at any time.

Imperial you get EXTRA ADVANTAGES with

IMPERIAL TYPE METAL CO.

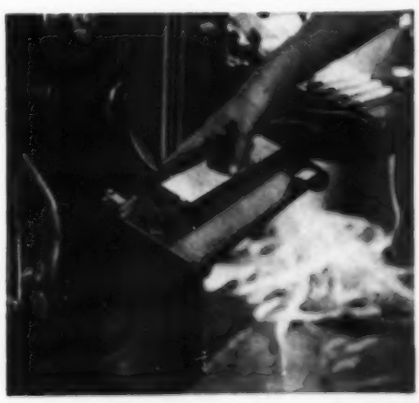
CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

For More Information Circle 73 on Reader Service Card

"We're getting three times the production of type since we installed TTS® equipment!"

Mrs. Helen Parsons, Teletypesetter operator, reads some tape she has just punched on the perforator. The setup of the equipment makes it easy for her to tend both the perforator and linecasting machine.

This is what Publisher Gerould calls "Automation Alley." The Model V Intertype (left background) is setting news matter while Mrs. Parsons punches tape.



Due to fast TTS type production, the Gazette has rigged up an alarm system that warns the operator when the galley is full. The spring-clip above actuates the alarm.

says Russell Gerould, Publisher, Eastern Gazette

The Eastern Gazette, first Maine weekly to install Teletypesetter equipment, began using TTS April 1st of last year. The equipment was attached to a new Model V Intertype. "Enthusiastic is the word which sums it up for all concerned," says Publisher Russell Gerould. He writes further:

"As a small jack-of-all-trades operation, it's hard to come up with an accurate line count. But it would be safe to say that, with the machine set for eight lines per minute, we're doing over 420 lines per hour now compared with 140 before installation of TTS. That's about three times the production of type. Putting it another way, before we installed TTS we had to send out from $30 to $60 worth of composition every week plus a lot of extra hours by the operator. Since installation of TTS, with even more composition to do, we haven't sent out a line and the operator keeps a practically normal eight-hour day. Some weeks she doesn't even work on Friday afternoons!

"Since tape is punched by the linecasting operator, our perforator unit is located next to the Intertype keyboard. The operator handles both machines, punching about 400 lines per hour.

"One feature that's working out especially well is that the Intertype can be left idle up to an hour each morning for servicing and still keep up our production of type. Before we installed TTS, the linecasting machine was sadly neglected because we had to keep it going all the time.

"If I had to sum up our experience with Teletypesetter in one word, it would be 'enthusiastic'."

You too can cut composition costs and boost production by *mechanical automation* with TTS. For further details write to: Teletypesetter Corp., Dept. PE4, 2752 North Clybourn Avenue, Chicago 14, Ill.

TELETYPESETTER

For More Information Circle 135 on Reader Service Card

8 OUT OF 10 *DAILIES

ORDER FROM EASTERN

The name EASTERN has become a byword in the composing rooms, stereotype departments, press rooms and photoengraving departments of the nation's finest newspapers.

Men who know and work with newspaper printing supplies and equipment in every category, rely on EASTERN for quick, dependable service in filling and delivering their orders.

The EASTERN Catalog 20 illustrates and describes over five hundred items to meet practically every production need. It's the most handy reference and complete source of supply in the industry. It pays to keep it at your fingertips!

MAKE YOUR NEXT ORDER EASTERN!

ENS EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.

96-03 NORTHERN BLVD., CORONA 68, NEW YORK

For More Information Circle 46 on Reader Service Card

Equipment & Supplies

(Continued from Page 14)

Chief Remelter may be improved, states United American, through installation of the new type crucible with stainless steel valve. For further information, please circle No. 263 on the Reader Service Card.

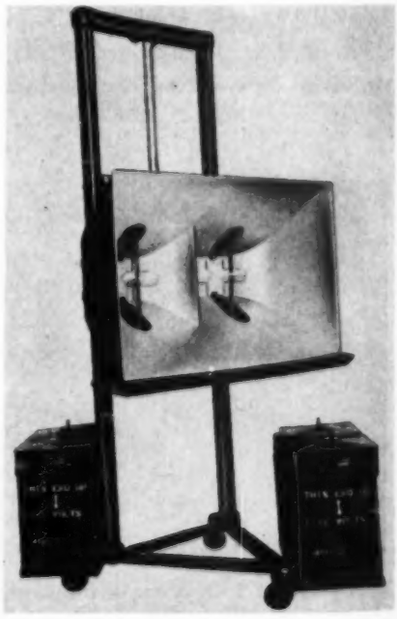
Eyewear Cleaning Unit

A unit for simplifying cleaning lenses of protective eyewear was announced by United States Safety

Service Co. Grey-green in color, the 9 in. by 15½ in. by 4 in. dispenser is made of heavy gauge steel. A plunger-type spray top 8 oz. bottle contains anti-fogging lens cleaning fluid. Single optical tissues, 5 in. by 9 in., are dispensed from two separate positions, and a receptacle is provided for used tissues. Unit is serviced through the front by a key lock. Screws are included to attach unit to wall. Lens cleaner and optical tissues for refilling are available. For further information, please circle No. 255 on the Reader Service Card.

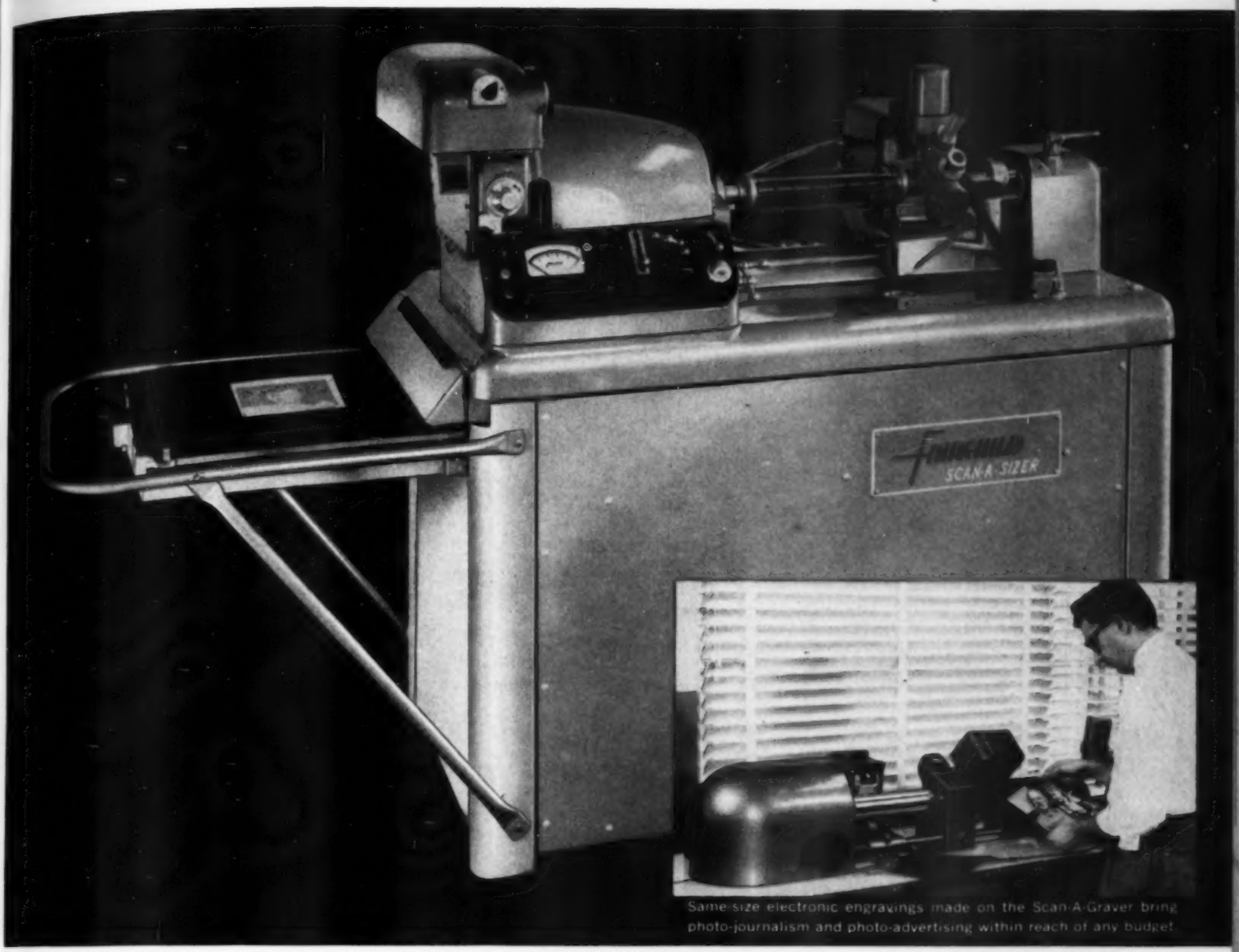
Macbeth Arc Lamp

An arc lamp, rated at over 11,000 w., has been developed by Macbeth



Arc Lamp Co. Lamp consists of two 140 amp. Constantarcs in a dual widespread reflector. Lamp is sup-

(Continued on Page 22)



Same-size electronic engravings made on the Scan-A-Graver bring photo-journalism and photo-advertising within reach of any budget

The new SCAN-A-SIZER brings you greater flexibility in "HI-FI" halftone production

Through the imaginative use of electronic engravings produced on Fairchild Scan-A-Gravers, many thousands of United States and Canadian daily and weekly newspapers are now effectively applying the principles of photo-journalism and photo-advertising.

Now, a new and more advanced development, the Fairchild Scan-A-Sizer, permits even greater convenience and economy in electronic engraving. For example, you get a choice of two screens in one machine, interchangeable at the flip of a switch. And the Scan-A-Sizer enlarges or reduces continuously to four and one-half times direct from the original copy; no re-copying is necessary. You can crop or edit pictures any way you like to get the most dramatic and effective presentation. Use of the new tone control enables you to improve flat or very contrasty prints; you can sharpen highlight or shadow areas—or you can accentuate middle tone detail.

Now, with the Scan-A-Sizer, if your advertisers give you art clipped from magazines or catalogs (even color swipes), if you use wire services or if you are handed faded photo copy—or posters—or even mounted art—you have a new versatility to meet your engraving needs quickly, easily and economically. And the Scan-A-Sizer gives you high-fidelity engravings up to 13" x 16" in a single operation.

- For information on the convenience and economy of either the Scan-A-Graver or Scan-A-Sizer, address Fairchild Graphic Equipment, Inc., 88-06 Van Wyck Expressway, Jamaica, N. Y., Dept. 100-46E.

FAIRCHILD GRAPHIC EQUIPMENT, INC.

SCAN-A-GRAVER • SCAN-A-SIZER

Electronic Engraving Machines

District Offices: Walpole, Mass.; Atlanta, Ga.; Chicago, Ill.; Los Angeles, Cal.; Toronto, Ont.

For More Information Circle 48 on Reader Service Card

Literature

Circle Numbers on Reply Postcard—It's Easier and Quicker

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please circle the numbers on the Reply Postcard in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. *Printing Equipment Engineer* will forward your request.

Composing Room

CLARENDON TYPE FACE

The original Haas Clarendon and Clarendon Bold types faces are displayed in a six page folder announced by Amsterdam Continental Types and Graphic Equipment, Inc. The Clarendon design, available on both the European Didot body and American point body sizes, is for use in advertising typography. For a copy, please circle No. 306 on the Reader Service Card.

MATRIX CORRECTION

Literature is available on request from Fisk concerning its Align-A-Mat. The device is used to restore Linotype and Intertype matrices to alignment. For a copy, please circle No. 307 on the Reader Service Card.

FOTOSETTER TYPE FACES

A 36 page booklet titled *Fotosetter Type Faces* has been issued by Intertype Corporation. In the booklet are contained complete alphabet showings of 178 fonts of Fotosetter type faces. Also shown are lower case alphabet lengths, characters per pica and special characters. Also, 18 pt. Futura advertising figures and 12 to 18 pt. logotypes are shown. For a copy, please circle No. 308 on Reader Service Card.

SELECTRO-MATIC QUADDER

An eight page, illustrated brochure was released by Star Parts, Inc. in which is contained complete information about its Selectro-Matic quadder. Some of the features of the quadder mentioned are push button controls, memory system and hydraulic actuation. For a copy, please circle No. 309 on the Reader Service Card.

AMSTERDAM AND BERTHOLD TYPE FACES

A price list and one-line specimens of type faces manufactured by two of Europe's type foundries has been published by Amsterdam Continental Types and Graphic Equipment, Inc. For a copy, please circle No. 310 on the Reader Service Card.

BAUER TYPE CALCULATOR

A 40 page copy of the Bauer Type Calculator is available from Bauer Alphabets, Inc. The calculator also constitutes a complete showing of all Bauer types with an indication of the size range of each type series. For a copy, please make your request on your letterhead to this magazine.

FILMOTYPE LETTERING

Filmotype lettering catalogs with over 1000 styles and sizes of face for its photocomposition machine have been made available by The Filmotype Corporation. The two catalogs are *Type Designs* and *Lettering Styles*. For copies please circle No. 311 on the Reader Service Card.

PROOF PRESS

Descriptive literature, published by Wesel Manufacturing Co., is used to illustrate the Wesel EPP-4 proof press. Press is equipped with mechanical safety guards and automatic stopping. For a copy, please circle No. 312 on the Reader Service Card.

LUDLOW TEMPO BLACK ITALIC

The Ludlow Tempo Black Italic type face is shown on a specimen sheet published by Ludlow Typograph Co. Fonts are available in from 14 pt. to 72 pt. For a copy, please circle No. 313 on the Reader Service Card.

Platemaking

MAGNESIUM BASE

MM magnesium base is described in a bulletin released by The Monomelt Company, Inc. The newspaper base is finished to 0.001 in. in height. Larger sizes can be used for proof press beds and molding slabs. For a copy, please circle No. 314 on the Reader Service Card.

SAW BLADES

A tungsten carbide tipped blade for cutting plastic, wood, slugs, stereocasts, zincs, and electro metal is illustrated and described in American Wood Products & Tool Supply's complete catalog. Also described is a carbide tipped cutter for the Pony Autoplate. For a copy, please circle No. 315 on the Reader Service Card.

Pressroom

DAMPENING COVER

Plast-O-Damp covers for use over Ideal's Plast-O-Damp water form base rollers are the subject of a descriptive folder released by Ideal Roller & Mfg. Co. The covers are said to control plate moisture throughout a press run and are lintless. For a copy, please circle No. 316 on the Reader Service Card.

AUTOMATIC BUTT SPLICER

An automatic butt splicer for splicing a new web of paper board onto an expiring web is the subject of a two page bulletin offered by Champlain Company, Inc. The splicer cutting cyinders, web pull section, pasting cylinders and single revolution are described. Also detailed is the way the splice is prepared and made. Included are three illustrations and a schematic cross-sectional illustration. For a copy, please circle No. 317 on the Reader Service Card.

OFFSET JOB PRESS

A publication, the first of a series of three issues, has been released by Harris-Seybold Co. about its Model 120 (LUH) Offset Job Press. In the publication features of the 14½ in. by 20½ in. press are illustrated and described. Subjects covered are press controls, press speeds, press lubrication, feeder latch and manual trip, inker, and others. For a copy, please circle No. 318 on the Reader Service Card.

REGISTER CONTROLS

An illustrated booklet which contains full details about Hurleton automatic register controls for ROP Color has been made available by Electric Eye Equipment Co. Specifications and engineering details are included. For a copy, please circle No. 319 on the Reader Service Card.

NEWSPAPER COLOR PRESSES

A fully descriptive brochure is available about Walter Scott & Co., Inc.'s printing presses and equipment. Described in the brochure are Scott press units and examples of equipment layout for variable color page location. For a copy, please circle No. 320 on the Reader Service Card.

PRESS WASHER

The Baldwin press washer, manufactured by William Gegenheimer Co., Inc., is illustrated and described in literature. The washer is installed on the operating side of the press and the blade can be cleaned from top without removing it. For a copy, please circle No. 321 on the Reader Service Card.

BRONZING MACHINE

The Dreissig Kombi 10V machine for use in tandem with a printing press for bronzing and dusting is the subject of descriptive literature made available by Henry P. Korn. Bronzing machine will take up to max. sheet size of 52 in. by 76 in. For a copy, please circle No. 322 on the Reader Service Card.

NUMBERING MACHINES

Wm. A. Force & Co., Inc. has made available its *Force Rotary Heads and Typographs* booklet. Rotary heads and typographs are for printing numbers on tickets, labels, tags, etc., with Roman or Gothic figures. For a copy, please circle No. 323 on the Reader Service Card.

Miscellaneous

HEATERS AND HEATING DEVICES

A 16 page power requirements section, in which is shown short and long form calculations for heating applications, is included in the 1957 catalog of General Electric heaters and heating devices, many of which are used in printing industry. The catalog comprises 72 pages. For a copy, please circle No. 324 on the Reader Service Card.

TYING MACHINE

National Bundle Tyer Co.'s Saxmayer tying machine is the subject of illustrated literature. The machines are both automatic and manually operated and use jute or sisal; will produce single or cross-ties. For a copy, please circle No. 325 on the Reader Service Card.

EASTERN EQUIPMENT

Equipment and supplies for composing, stereotype, press and photoengraving departments are illustrated and described in a catalog published by Eastern Newspaper Supply, Inc. For a copy, please circle No. 326 on the Reader Service Card.

PLANT DESIGN

A catalog of plants designed by Foster Manufacturing Co. has been made available by Foster. Plants are custom built to customer requirements. For a copy, please circle No. 327 on the Reader Service Card.

STUFFING MACHINE

The four or five hopper 24P Sheridan stuffing machine, the 48P stuffer for more than five sections, and the 12P for newspapers with two or three sections are illustrated and described in a booklet. The 24P stuffer, manufactured by T. W. & C. B. Sheridan Co., has operating speeds up to 12,000 per hr. For a copy, please circle No. 328 on the Reader Service Card.

MANAGEMENT CONSULTANT SERVICE

A detailed brochure describing its complete management consultant services to printers and publishers has been released by Graphic Arts Industry, Inc. Each project or plant improvement is shown in an actual scale model reproduction. For a copy, please circle No. 329 on the Reader Service Card.

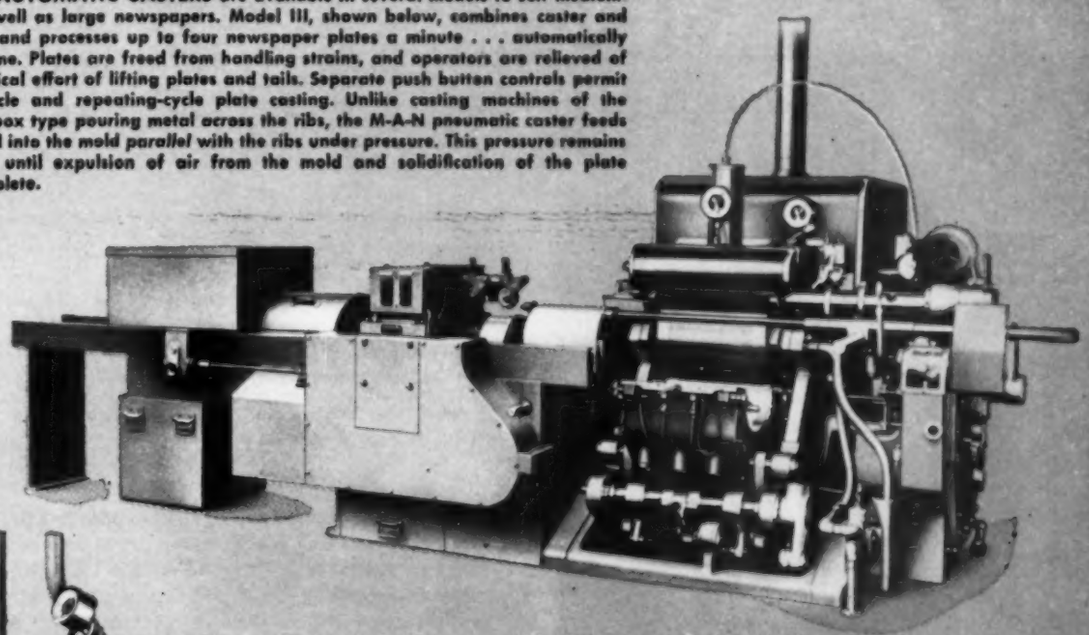
(Continued on Page 81)

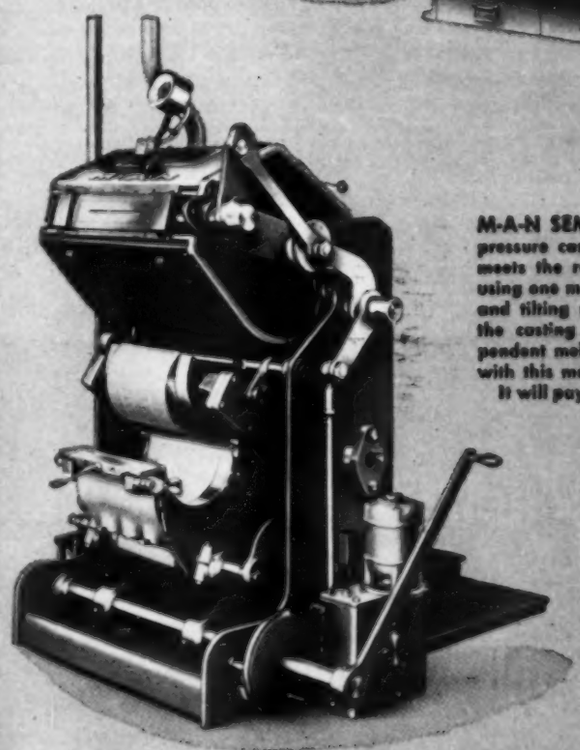
NEW M-A-N PLATE CASTING MACHINES ESTABLISH A NEW STANDARD...

for both quality, performance and efficiency in plate making

M-A-N Automatic and Semi-Automatic Casters—operating on the pressure casting principle—produce plates of closer grain, consistently good printing face with higher wearing quality. Plate thickness, curvature and width are controlled with greater accuracy. M-A-N casters produce *tailless* plates—at a casting temperature approximately 50 deg. F. lower than is usual with other casters—substantially reducing metal turnover as well as fuel and metal costs. An exclusive system of color mat registration in the casting box simplifies operations and speeds up production.

M-A-N AUTOMATIC CASTERS are available in several models to suit medium-size as well as large newspapers. Model III, shown below, combines caster and finisher, and processes up to four newspaper plates a minute . . . automatically and in line. Plates are freed from handling strains, and operators are relieved of the physical effort of lifting plates and tails. Separate push button controls permit single-cycle and repeating-cycle plate casting. Unlike casting machines of the vertical box type pouring metal *across* the ribs, the M-A-N pneumatic caster feeds the metal into the mold *parallel* with the ribs under pressure. This pressure remains effective until expulsion of air from the mold and solidification of the plate are complete.





M-A-N SEMI-AUTOMATIC CASTERS, incorporate the same principle of pressure casting that has made M-A-N famous the world over. It ideally meets the requirements of smaller newspapers and of larger newspapers using one machine for R.O.P. color plate production. It combines casting box and tilting metal pot in one compact, self-contained unit. When required, the casting machine pot can be pump-fed automatically from an independent melting furnace. A rate of up to two plates per minute is possible with this machine.

It will pay you to get in touch with Hoe. For more information, please write:

R. HOE & CO. INC.

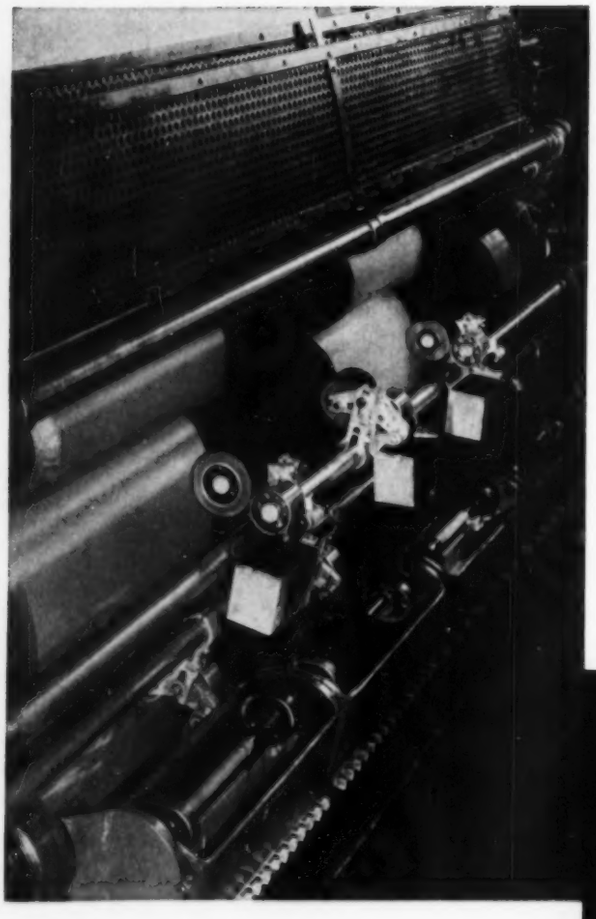
910 E. 138th Street, New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

For More Information Circle 69 on Reader Service Card

ADAPT YOUR PRESSES FOR THE FINEST, MOST ECONOMICAL ROP COLOR

With this amazing new Dayco Tru-Set Roller and Color Separators



Here's the economical way to get the finest reproduction that ever rolled off your presses—plus color flexibility you wouldn't believe possible! Continue to use the same ink, paper and plates. Now, add new Dayco Tru-Set Rollers and equip your presses with exclusive Dayco Color Separators. You'll be amazed by the improvement in the quality of your halftones, type and solids and the economy of Dayco's positive, roller-saving, system of mechanical color control.

Here's the reason. New Dayco Tru-Set Rollers give you the perfect hardness for your press. High resiliency slows column scoring. Excellent tensile strength resists nicking and marking from sharp plate corners. Result: New Dayco Tru-Set Rollers keep their original smooth finish longer for perfect ink transfer. When you regrind Dayco Tru-Set Rollers after many months of unmatched service, you'll find no excessive swelling . . . just enough to give grinding stock. And, they're fire-resistant to protect costly equipment

Next time your Dayco representative calls, order new Dayco Tru-Set Rollers with this assurance — either you're satisfied or we'll make good. And, when buying new presses, insist that they come equipped with Dayco Tru-Set Rollers. Add your own Dayco Color Separators and you're ready to run the finest, most economical ROP color.

Dayco Color Separators give you almost unlimited ROP color flexibility . . . permit printing of as many as 8 extra black and white pages . . . at low cost and *without cutting rollers!*

Dayton Rubber

THE COMPANY, Dayton 1, Ohio • 1486 Lakewood Avenue, S.E. Atlanta, Georgia

West Coast Distributor, Tillicum Rubber Company, Lacey, Washington

for Offset, Letterpress, Newspaper, Corrugated Boxboard, Gravure, Flexography, Coating, Graining, Steel Mills

© D. R. 1957

For More Information Circle 41 on Reader Service Card

They set in a SPLIT SECOND!

91	Job Black for absorbent stocks. Can be left on press several days.
92	Regular Job Press Body Black. No drier, can be left on press overnight.
93	Halftone Cylinder Black. No drier, can be left on press overnight.
94	Halftone Cylinder Black. Contains drier, *cannot* be left on press overnight.
95	Halftone Cylinder Press Black. Contains drier and compound for added rub and scratch resistance. *Cannot* be left on press overnight.
47	Offset Halftone Black, most popular. Contains drier, and *cannot* be left on press overnight.

IPI Speed King Blacks are newly improved packaged inks. There are six different blacks for different specific uses: A job black for absorbent stocks, a regular job press body black, three halftone cylinder press blacks and an offset halftone black. Although these blacks vary somewhat in degree of characteristics, in general they offer these advantages:

1. Split-second setting
2. Ultra fast drying
3. Improved press stability
4. Less dryback—almost as bright dry as wet (on coated stock)
5. High finish on coated stocks and brilliant finish on enamel, *Kromkote*, *Lusterkote* and C1S label papers
6. Print sharp and clean

If you have not yet tried Speed King blacks, contact your IPI salesman. He will be glad to arrange a trial run.

IPI, IC and Speed King are trademarks of Interchemical Corporation

INTERCHEMICAL PRINTING INK
CORPORATION DIVISION

EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.

For More Information Circle 74 on Reader Service Card

Glass armored drawsheets resist ink!

SPHEREKOTE DRAWSHEET
ORDINARY DRAWSHEET
In actual test run at LaCrosse Tribune, plates were inked and impression made directly on blankets. When the web was fed through, the results clearly showed that Spherekote Drawsheet's glass armored surface effectively resists ink.

Spherekote® Drawsheets Reduce First Impression Offset; Give Sharper, Cleaner Reproduction

You can be sure there's a quality difference when eight of the ten top ROP color newspapers depend on SPHEREKOTE Drawsheets! It's the surface that makes the difference—a surface armored with millions of microscopic glass beads!

This glass-hard surface has little affinity for ink. First impression offset problems are reduced. You get sharper, cleaner reproduction. These tiny glass beads are fused to a tough, but extremely resilient, uniform rubber base. Costly press stops for maintenance are cut to a minimum. Savings begin the day you start using SPHEREKOTE Drawsheets and Blankets. For information, write: Minnesota Mining and Manufacturing Co., Dept. FM-47, St. Paul 6, Minnesota.

REG. U. S. PAT. OFF.
SPHEREKOTE BRAND
DRAWSHEETS AND BLANKETS
PRODUCTS OF 3M

Made in U.S.A. by Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. General Export: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

For More Information Circle 164 on Reader Service Card

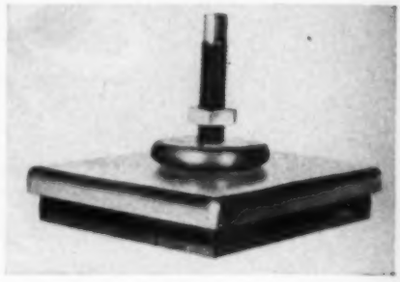
Equipment and Supplies

(Continued from Page 16)

plied with a counterbalancing stand and four Macbeth self-ballasting automatic regulating transformers which are said to maintain arc voltage and current regardless of fluctuations in line voltage. The lamp, Model B-16C, was designed for applications where high light-intensity and controlled lighting is needed for large printing frames. For further information, please circle No. 254 on the Reader Service Card.

Machinery Mount

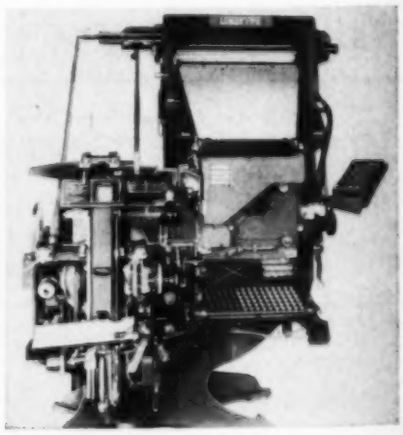
A self-leveling machinery mount, called the Level-Rite, was announced by Unisorb Division, The Felters Co.



It is constructed of a steel base unit with leveling screw and leveling plate with a Unisorb Vibration dampener pad. The seven models are used for loads from 800 lbs. to 7500 lbs. per unit and are in four sizes, 4 in. by 4 in., 6 in. by 6 in., 8 in. by 8 in., and 10 in. by 10 in. One unit is required for each machine leg or mounting point. The mount is leveled by rotation of the square top of the screw post and is secured with a lock nut. The mount is fastened to floor by compression. For further information, please circle No. 268 on the Reader Service Card.

Newly Engineered Linotype

The Model 31 Blue Streak Linotype has been newly engineered, ac-



cording to J. W. Reid, vice president in charge of sales, Mergenthaler Linotype Co. According to the announcement, the Model 31 will now operate at a sustained pace of 10 lines per min. with either manual or

(Continued on Page 74)

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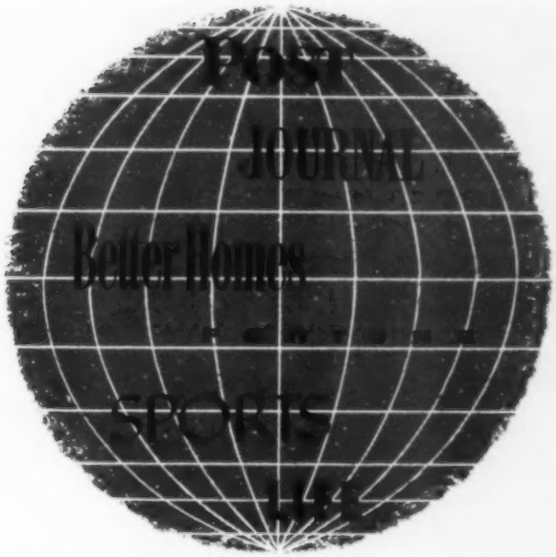

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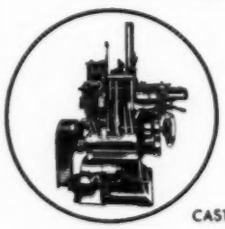
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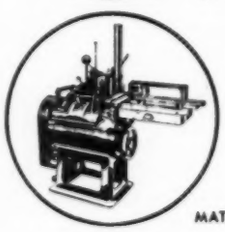
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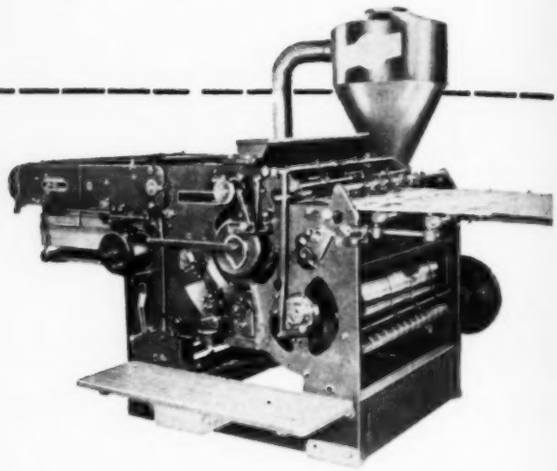
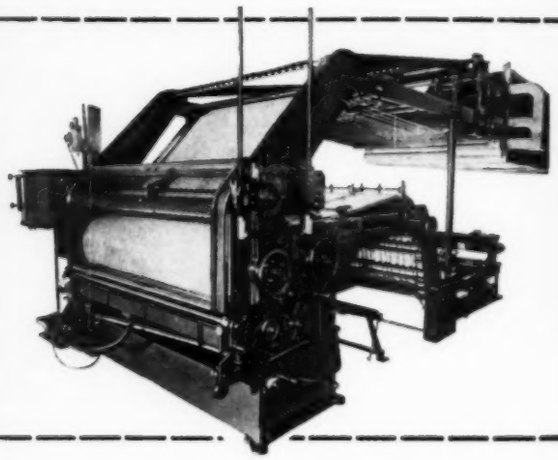
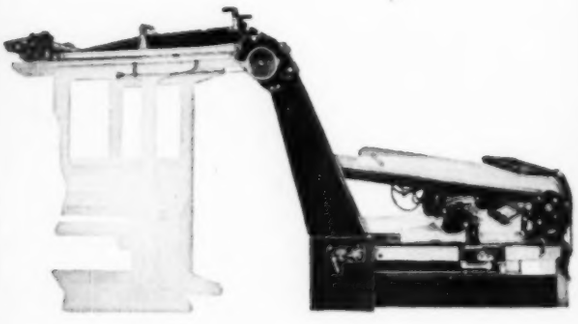


VARNISHING of labels, magazine covers, circulars and gift wrappings enhances both product appearance and profits. The Christensen Varnishing Machine operates at almost twice the speed of any other present varnisher. Dual-level oven decreases floor space required. The Christensen will handle paper or board in widths up to 78 inches.



STREAM FEEDING with the Christensen Continuous Feeder means no stopping of the press . . . more printed sheets per hour. Improved register because sheets arrive at register position at one-sixth the speed of sheet-by-sheet feeders. Floor loading reduces operator fatigue, reduces loading time, eliminates stairs and platforms.



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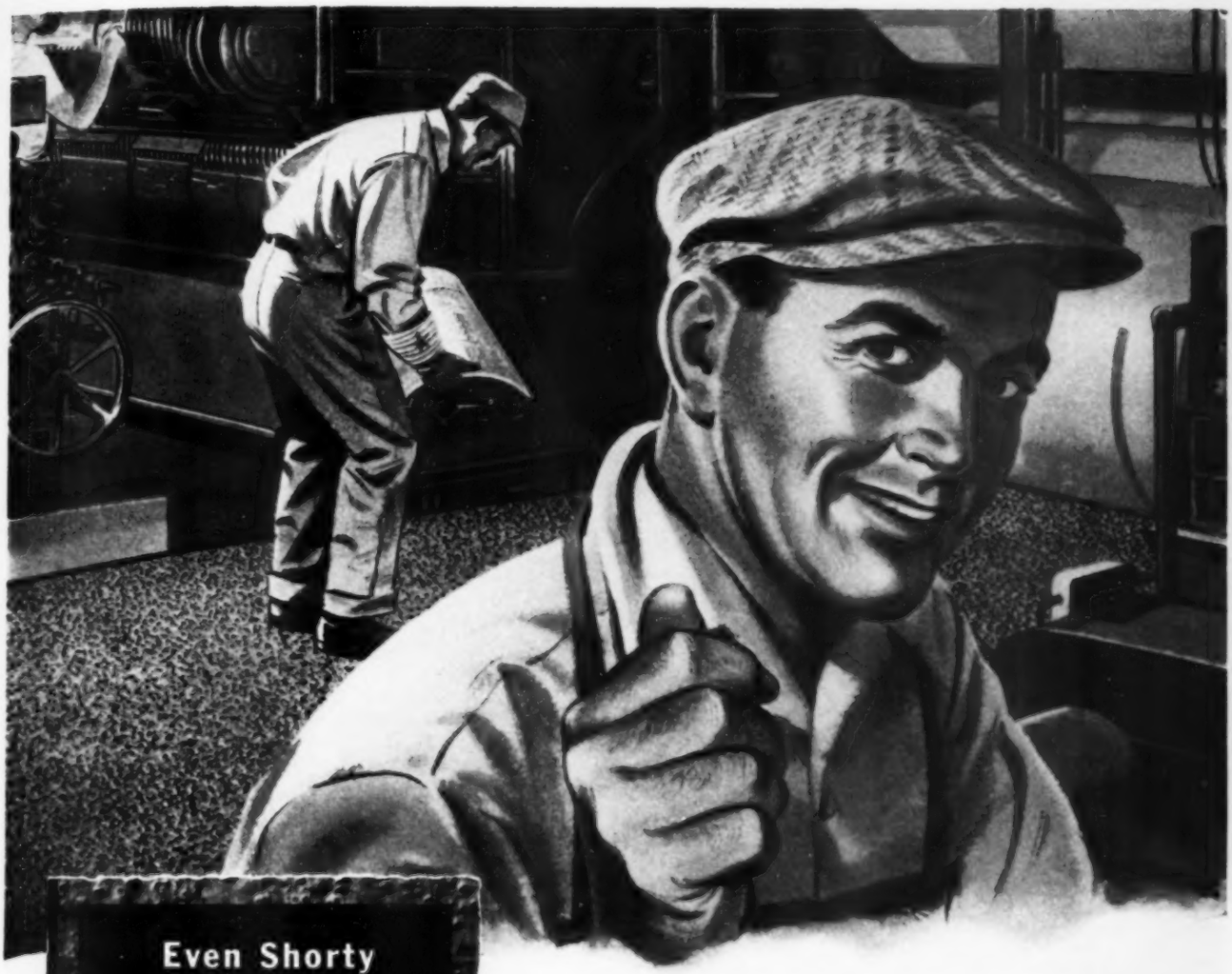
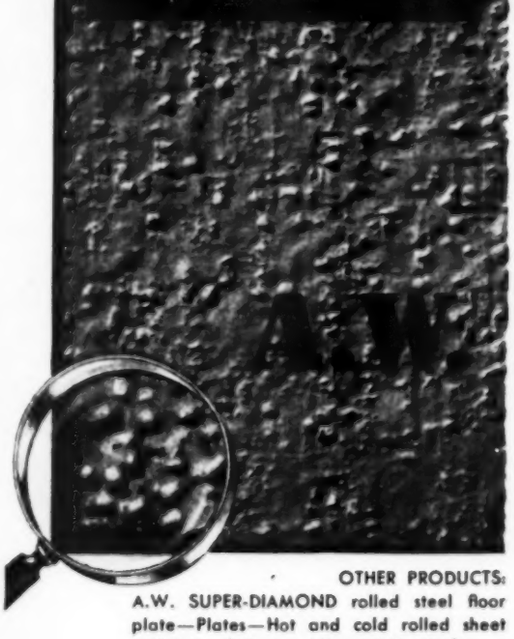


Even Shorty doesn't slip on this new stuff



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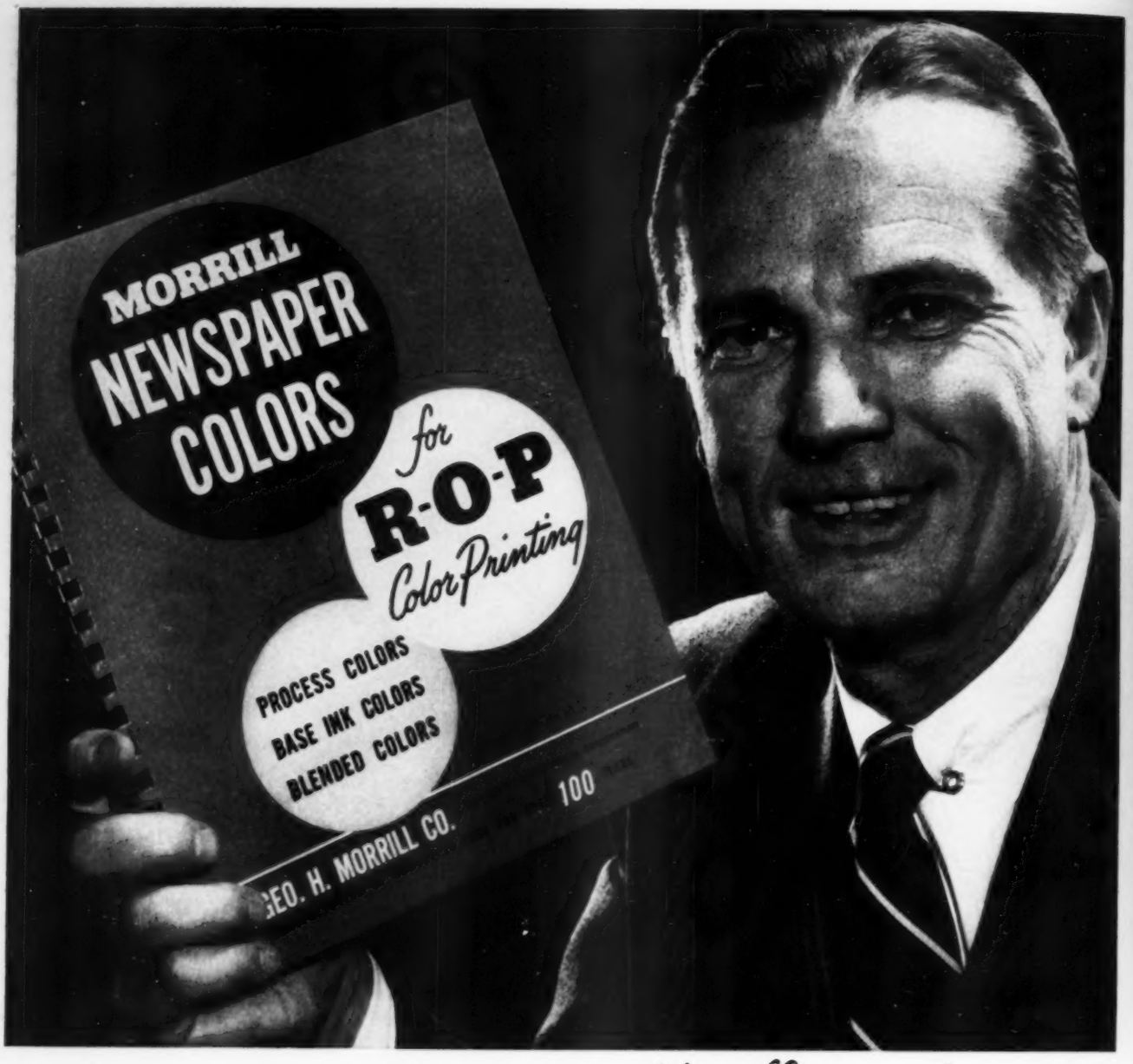

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New Super Chiefs fulfill every expectation for quality, fast set-ups, and operating speed. That's the enthusiastic report of John F. Snider and Fred C. Landis, President and Vice President of Logan Printing Company, Peoria, Illinois. Both Super Chiefs are equipped with ATF Aqua-Trol units.

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For More Information Circle 91 on Reader Service Card

PRINTING
EQUIPMENT
Engineer
April 1957

Masking

In the Graphic Arts

By ADAM HENRI REISER, Eastern Editor

M. X. Q. writes from Milwaukee, "Masking in offset-lithography takes on many forms. Its many implications in camera work for color correction are known to me but I would value development of some of the other forms."

Broadly, what is masking? Masking can be said to be the application of a mask. Webster defines a mask as, "a complete or partial cover for the face to disguise or protect the wearer; to cover or conceal."

Applied to photomechanical platemaking, a mask, "covers, conceals or protects." In effect, the function of the mask is to protect a light sensitive coating on any surface and keep it from becoming light hardened or being exposed to light. In so doing, the mask may be used to produce either work or nonwork areas, depending on how the mask is employed.

Materials Used For Masking

Masks may be created out of different kinds of paper, such as goldenrod sheets of different thickness and colors, manufactured for the purpose. Some use the black sheets interleaved between the sheets of film as they come from the supplier. Both the black and the goldenrod furnish varying degrees of opacity from the thin grade in either color to the extremely opaque, heavy, orange goldenrod sheet.

Masks may also be made of film, just as in color separation work, the mask being shot in the camera.

Another masking material is the thin silver leaf or aluminum foil. It is sometimes used where screened negatives or positives require masks that will form the outline of the screened or halftone subject. Where trouble occurs with contact, the metal is advocated even over the opaquing usually performed on this kind of work.

Masking Technique Explained Through Illustration

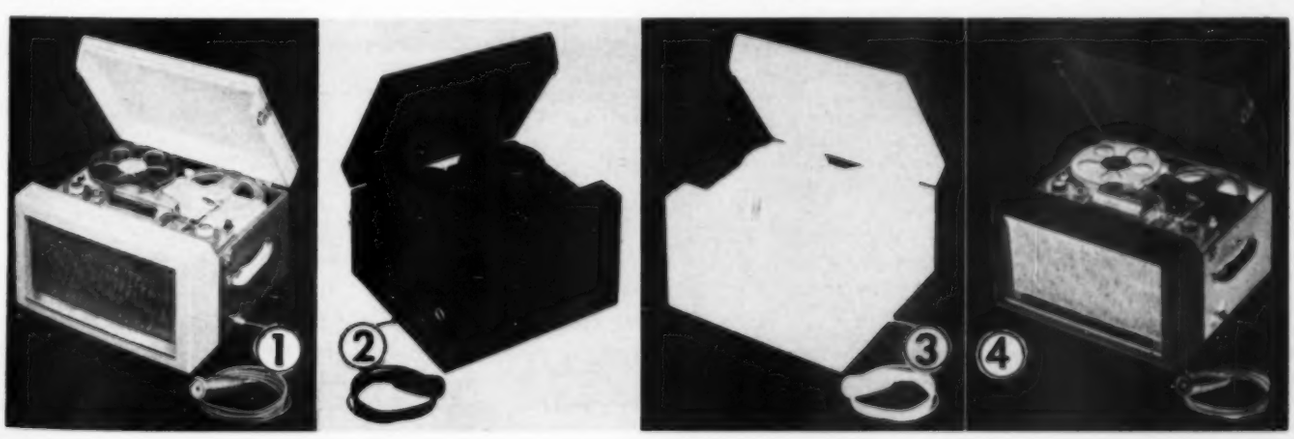
Fig. 1.—A Velox print was made of a halftone which was made from an original photograph. The subject is wanted with a white background around the machine and cord, instead of a screened background. This is known as a silhouette halftone.

Fig. 2.—A second shot is made of the original photograph, this time in line. This negative is spotted and will then look like the picture above in this Fig. 2. It is really a mask or duplicate of the machine.

Fig. 3.—A contact print of negative shown in Fig. 2 is made. It will look like this.

Fig. 4.—Negative of No. 3 is used as a mask over the negative of Fig. 1. These two negatives are mounted together and the sandwich film will look like this.

Contact from this will yield a screened positive of the subject in silhouette form (with no screen outside the subject). Through use of a camera mask hand silhouetting is eliminated.



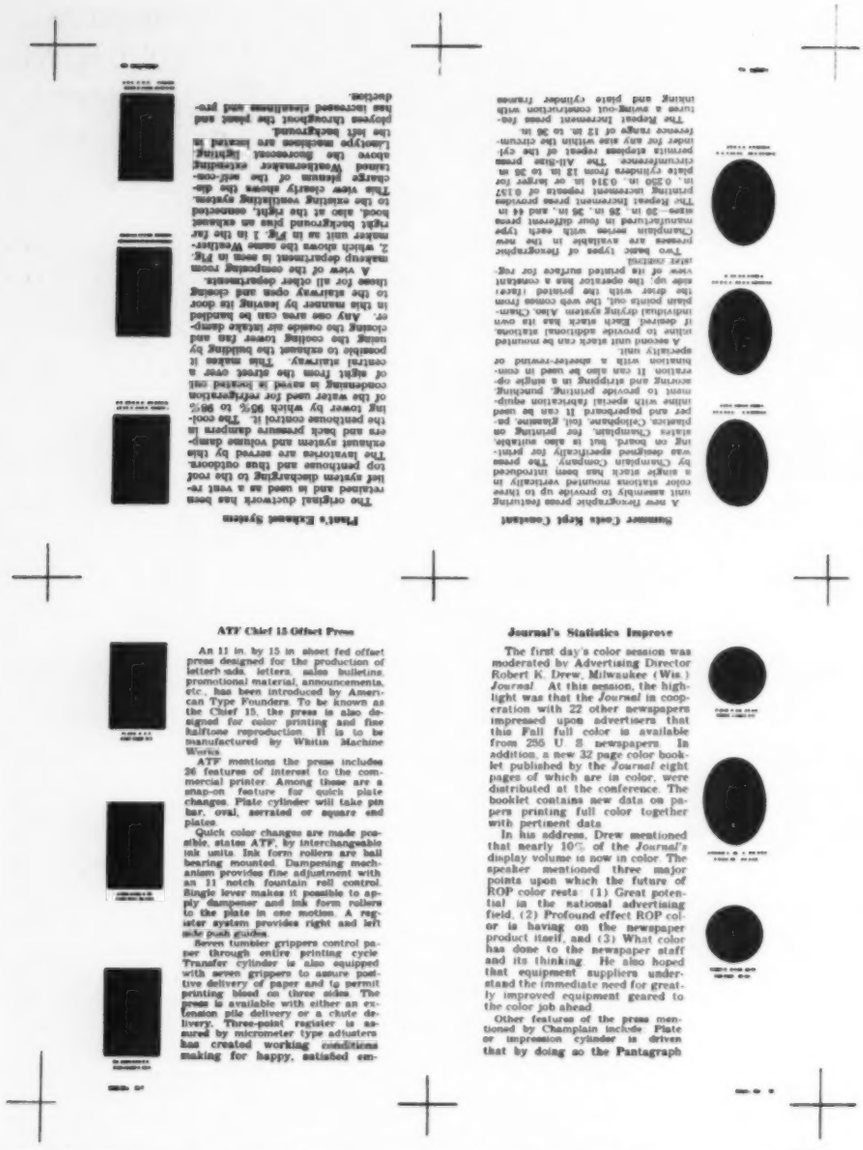

ATF Chief 15 Offset Press
An 11 in. by 15 in sheet fed offset press designed for the production of letterheads, letters, sales bulletins, promotional material, announcements, etc., has been introduced by American Type Founders. To be known as the Chief 15, the press is also designed for color printing and fine halftone reproduction. It is to be manufactured by Whitin Machine Works.
ATF mentions the press includes 26 features of interest to the commercial printer. Among these are a snap-on feature for quick plate changes. Plate cylinder will take pin bar, oval, serrated or square end plates.
Quick color changes are made possible, states ATF, by interchangeable ink units. Ink form rollers are ball bearing mounted. Dampening mechanism provides fine adjustment with an 11 notch fountain roll control. Single lever makes it possible to apply dampener and ink form rollers to the plate in one motion. A register system provides right and left side push guides.
Seven tumbler grippers control paper through entire printing cycle. Transfer cylinder is also equipped with seven grippers to assure positive delivery of paper and to permit printing bleed on three sides. The press is available with either an extension pile delivery or a chute delivery. Three-point register is assured by micrometer type adjusters has created working conditions making for happy, satisfied em-
Journal's Statistics Improve
The first day's color session was moderated by Advertising Director Robert K. Drew, Milwaukee (Wis.) Journal. At this session, the highlight was that the Journal in cooperation with 22 other newspapers impressed upon advertisers that this Fall full color is available from 256 U. S. newspapers. In addition, a new 32 page color booklet published by the Journal eight pages of which are in color, were distributed at the conference. The booklet contains new data on papers printing full color together with pertinent data.
In his address, Drew mentioned that nearly 10% of the Journal's display volume is now in color. The speaker mentioned three major points upon which the future of ROP color rests: (1) Great potential in the national advertising field. (2) Profound effect ROP color is having on the newspaper product itself, and (3) What color has done to the newspaper staff and its thinking. He also hoped that equipment suppliers understand the immediate need for greatly improved equipment geared to the color job ahead.
Other features of the press mentioned by Champlain include: Plate or impression cylinder is driven that by doing so the Pantagraph

Fig. 5.—Here is shown miniature reproduction of a four page pasteup. Where the halftones are to be positioned the background is solid black.

Where the halftone is silhouetted in opaque, the liquid in either black or red opaque is spread on with a brush. The opaque is dissolved in water with ammonia added at times, the black opaque being dissolved in turpentine where deep-etch or water soluble coatings are used.

Simplest Form of Mask

The simplest form of mask of course is the line negative, or positive, or anything that may act as such, as for illustration, the conversion proofs on cellophane, acetate, or glassine, etc. This simple mask performs the full functions of a mask, for when it is used in further shooting with any other light sensitive coating or surface, "it keeps that surface from being attacked by light under the darkened spots," thus resulting in those spots being unaffected by any chemical change further on in the process. Thus, that area will remain free from work if we are working in albumen or similar coatings. However, if deep-etch coatings are used, the mask will keep the coating soft and permit development, exposing the metal and permitting it to be chemically treated to produce a printing image.

It might be mentioned in passing that reference to a line shot in offset-lith could include halftones when the dots were incorporated in the original, as either a previously printed job or a Velox halftone. Any such original or copy would not require the interposing of a screen in the camera in making the negative, and even though dots were included, the negative is still technically a line shot.

Of course, where the negative is the basic mask, it holds back the action of light as well as the goldenrod or other masking material. This fact is exploited in the use of an underdeveloped continuous tone negative on contrasty film made from the original photographic copy. This is registered on the halftone of that photo and in that position it will aid greatly in silhouetting an irregularly outlined subject, eliminating the dots in the halftone outside the subject area. In that way the line shot or continuous tone overlay negative acts as a mask and could save hours of hand opaquing. Figs. 1, 2, 3 and 4.

Ingenuity Takes Many Forms

The function of the goldenrod paper mentioned earlier really is three-fold: (1) It is used for the purpose of ruling out a layout by means of which position is shown where the work is to be placed; (2) Then after the film has been fastened and taped into position, the goldenrod is cut away in those areas where work is wanted, and (3) Thus serving as a mask in other places.

Then, when the goldenrod with its film (called a flat) is laid on a plate with its coating of albumen or a similar water soluble coating, light from the arc lamps will harden the coating showing under the open parts of the negative or flat. The hardened parts are then made ink receptive, the soft parts, under the mask are washed away with water, the plate is then chemically treated and is ready for the press.

In effect, the flat, a combination of goldenrod, film and other masks, becomes in itself a mask.

In albumen work all this remains pretty uncomplicated. However, in positive or deep-etch work as intimated before, masking or covering up presents the opposite result to that found in albumen work.

Where in albumen work the open parts of the negative become the work, in deep-etch work the open areas become the non-work sections, the masked areas representing the work. Now the positive, or work, as the term positive might imply, becomes the mask, keeping the sensitive coating on the plate soft, enabling its development and removal. The open parts of the positive—non-work areas—permit the transmission of light under exposure and will result in hardening of the coating. The hardened coating in this case acts as a mask. This hardened coating—sometimes called a resist—acts as the resist of the photoengraver with his cold top enamel; or the carbon-gelatine resist of the photogravure worker. The resist becomes a stencil or mask, keeping the acid from the metal plate

(*Continued on Page* 86)

Press Expanded to Print Five Colors

The Nevins Company, Clifton, N.J., recently expanded a two color 76-in. Miehle rotary letterpress into a five color press by adding three new printing units.

The original two color sheet fed Miehle, one of three such presses, along with 22 Miehle flatbeds, handled the printing production of the company. In Fig. 1 is shown the conversion while being made. The three center units with the cylinders installed are the new units; those at the ends without the cylinders are the original units. In expanding the press, the pile delivery and one printing unit were moved forward to allow space for the new units. In Fig. 2 the newly completed five-color installation is shown.

Prepares for Color Business

Nevins has occupied its Clifton plant approximately four years. At the time the plant was built management realized that the trend in printing would be more and more to multiple colors. When installing the three original two color Miehles, provision was made for future expansion. Floor space was provided and foundations for all three rotaries were constructed so that these presses could be expanded to five colors when the need arose. This foresight enabled the conversion to be made with minimum of down time and without repositioning of equipment.

Nevins specializes in the printing of labels, packages and display pieces for nationally known companies. As pointed out by George C. Ziegler, printing manager, each item shipped must withstand close scrutiny and severe usage. Virtually every piece produced by the company is inspected before leaving the premises of the plant.

Nevins provides a complete printing service starting with layout and design and running through printing, varnishing, cutting and gluing.

Enables Using More Color

In its planning department many of the labels used by customers are designed. Now that the five color press is available many of the company's newest designs will embody more liberal use of color. The expanded Miehle, by printing five colors with one pass through the press, will enable The Nevins Company, it is hoped, to keep costs at a minimum in the face of ever increasing costs of labor and raw materials. In other words, it is expected that some increased costs in the manufacturing of products will be offset by the use of this equipment.

The company manufactures many of its own inks.

Nevins also operates its own composition section, although plates are made on the outside. The company uses substantial numbers of chrome finished plates, since this finish increases plate life three to four times.

In its varnishing department, a Christensen varnisher is kept busy applying the finish required for the particular paper and board involved and for the given end use.

Following varnishing comes label cutting, carton diecutting and inspection. In connection with label cutting, the company has recently installed two new Brackett trimmers to increase cutting capacity. These trimmers are equipped with delivery conveyors approx. 35 ft long and girls on alternate sides of the conveyor inspect stacks of printed material as it feeds from the trimmer.

Following the cutting operations, items to be glued go to the gluing department prior to packaging, warehousing or shipping.

In discussing sheet fed rotary presses in the Nevins type of work, Ziegler stated the rotaries lay colors smoothly and uniformly and that no trouble is encountered with mottle or trapping of inks. He points out that most of Nevins' stock is a hard sheet designed for abuse and that former trouble jobs, such as those involving light inks, are just straight ordinary jobs for the rotary presses.

ANPA Mechanical Conference Exhibit Spaces

Since all of the exhibit spaces for the ANPA Mechanical Conference to be held at the Morrison Hotel, Chicago, June 10, 11, 12, have been reserved, *Printing Equipment Engineer* has established an exhibitors' waiting list for additional space. If there is enough demand for additional exhibit spaces, every effort will be made to secure the necessary floor space at the Morrison Hotel.

All of the original exhibit spaces consisting of 126 booths have been reserved by 72 manufacturer and supplier exhibitors.

If your company would like to secure exhibit space for the conference, please get in touch with *Printing Equipment Engineer*. We will place your name on the waiting list and make every effort to secure additional booth exhibit space.

Fig. 1.—View in plant of The Nevins Company, Clifton, N. J., was taken recently when a Miehle 76 in. two color rotary sheet fed press was being converted into a five color press by addition of three printing units.

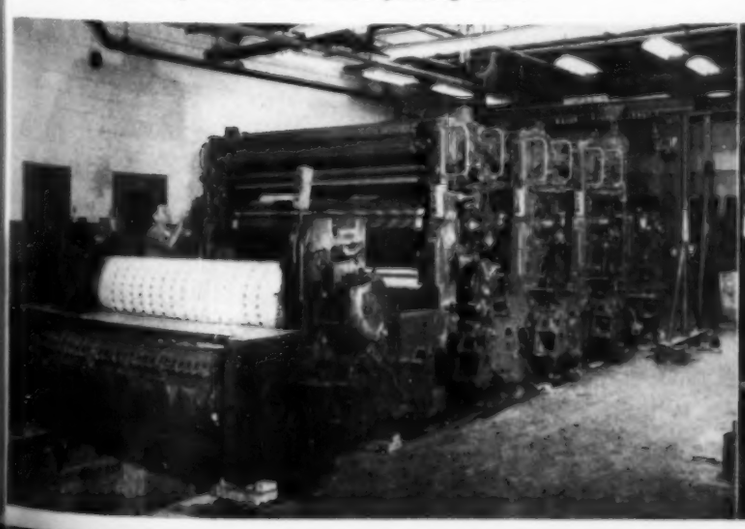


Fig. 2.—How the press looks now. When installing three two color Miehles approx. four years ago, provision was made for expansion by providing floor space and foundations for additional press units.

Fig. 1—View of Oxy-Dry sheet cleaner head mounted so as to clean the sheet just after it has been seized by the grippers on a Cottrell rotary letterpress.

Increased Output Results From Sheet Cleaner Use

By CHARLES EDSON*

**Vice President, Kable Printing Co., Mount Morris, Ill.*

Main objectives of printing plant executives is to lower production costs as much as possible, increase production and to do better quality work. In a publication plant such as ours a prime objective is to produce color work which is consistently in register. Plant executives are conscious of these objectives at all times and their accomplishment is a never ending quest.

Kable Printing Co. operates a publication plant. We print approx. 145 publications of various kinds monthly. These are printed by letterpress and rotogravure processes. Being what might be called a specialty printing plant, it is necessary for us to adopt any new method or device which will improve printing quality at reasonable cost.

Through the use of sheet cleaners on a number of our letterpress sheet fed publication presses we feel we have improved press performance, increased production and have improved printing quality.

Increase in Running Speed

The sheet cleaning equipment has been installed on three Cottrell-Claybourn five color sheet fed presses—two of them are 40 in. by 59 in. size, and one is a 28 in. by 42 in. press. Since installation of the sheet cleaning equipment we find we have increased our running speed by an average of 300 i.p.h. The paper used is usually 70 lb. to 90 lb. enamel, although we do print some 60 lb. coated stock.

Through use of the sheet cleaners occasional wood and the ever present paper particles which cause unsightly hickies are removed from the sheet before printing impression. As important as is this function in attaining printing quality, we feel that the important function of these cleaners is in relation to the anti-offset spray equipment which we use on these presses. This is where press running time is increased by an average of 300 sheets per hr. Plate and impression cylinder washups are reduced about 70%. Every pressroom executive knows what this means in increased press production time.

Better Color Register

Another important function of the sheet cleaning equipment is that color register is improved because the sheet is ironed out before contacting the impression cylinder. Another benefit is that any spray dust on the sheet is drawn into the vacuum stream of the cleaning equipment.

The sheet cleaning equipment does not add distracting attention to detail on the part of the pressmen—it is turned on and is shut off automatically with the starting and stopping of the press. Our letterpress pressroom superintendent, Earl Gabrielson and our pressroom mechanic, Earl Gilliland, worked with the sheet cleaning equipment manufacturers both for installing the equipment and in developing it to the point where it was profitable for Kable Printing Co. to decide that the sheet cleaning equipment is permanent in our plant.

The Cleaning Equipment

To explain briefly, three important pieces comprise the sheet cleaning equipment. One of these is the cleaner head assembly, one the differential air and vacuum unit, and the manifold which distributes vacuum and the blast evenly over the sheet.

The cleaner head assembly replaces the usual sheet brush in the press and is set accurately to just clear the gripper fingers. The cleaner head assembly, of course, extends the width of the impression cylinder. The head is divided longitudinally so that air under 2 lbs. pressure is flowing through one compartment and in the other half vacuum pull (48 in. water lift) is exerted to draw wood and paper dust particles and offset spray residue (in case the sheet is to be run through the press for additional impressions). On each end of

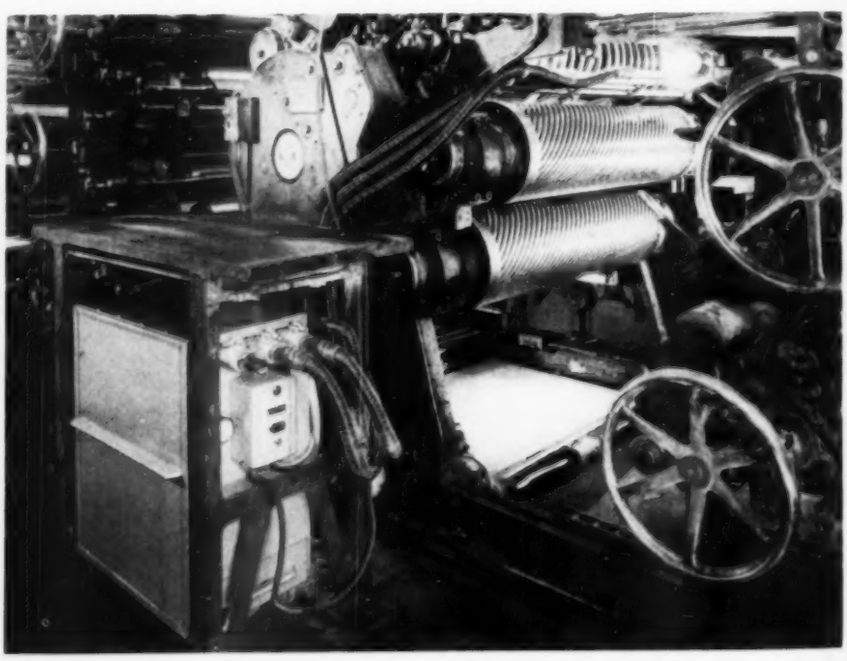


Fig. 2—View of Cottrell five color rotary press in plant of Kable Printing Co., Mt. Morris, Ill. The inking units have been rolled away from the printing unit to show how Oxy-Dry sheet cleaning equipment is positioned. Unit on floor at left is called the differential unit and supplies both compressed air and vacuum pull to the cleaner heads. The differential unit may be rolled to another press.

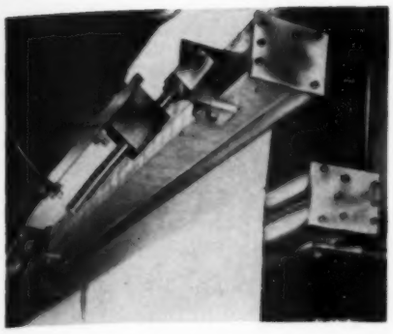


Fig. 3—This picture shows method of mounting Oxy-Dry sheet cleaner heads, in this instance one for each side of the sheet. U clamps are used to mount heads in proper position by fastening to frame rods or inserted pipe supports.

the heads are located adjustable controls. These controls close off the vacuum pressure to the width of the sheet running through the press. The head is connected by flexible ducts to the air and vacuum differential unit.

The differential unit itself is

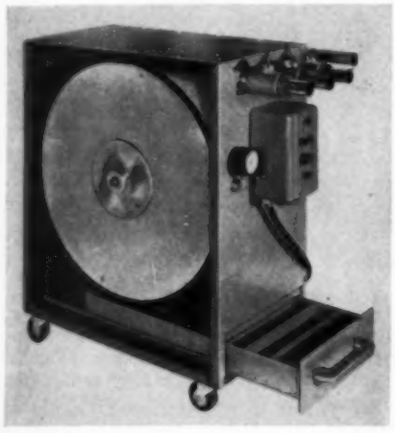


Fig. 4—View of Oxy-Dry differential unit with partially exposed interior showing motor operated fan. The tray below is used to collect paper particles and dust drawn from the paper surface on the press.

self-powered with a 3 h.p. motor enclosed to 20 v. 3 ph. motor, producing 48 in. water lift of vacuum and approximately 2 lbs. air pressure at a high volume velocity of approx. 650 cu. ft. per min.

Half of the cleaning head is connected to the vacuum inlets and the other half to the air pressure outlet. The differential unit is equipped with hand controls to vary the air and vacuum pressures.

The sheet cleaning action is created by applying air under pressure and by vacuum pull to the sheet. This action creates a venturi-jet flow on the face of the sheet to be cleaned. If this action could be seen, it would resemble a whirling air brush revolving against the direction of rotation of the sheet. Another way in which the action can be explained is to state that the flow of compressed air is impinged against the revolving sheet. This action loosens particles and dust. The pull of the vacuum sucks or draws these particles into the head so they may be conveyed through the flexible tubing into the vacuum-blower differential unit. All air reaching the blower part of the head is filtered through a fine mesh screen. The screen is cleaned periodically to maintain maximum vacuum pull.

Presently, we are doing considerable research and experimenting in connection with web cleaning equipment on our high speed rotogravure printing presses. So far, results have been encouraging.

Hammermill Paper Trip Offered to Craftsmen

An invitation has been extended to a limited number of men attending the 1957 Convention of the Intl. Assoc. of Printing House Craftsmen at Hotel Statler, Buffalo, N. Y., Aug. 4-7, to visit the Erie, Pa., mill of Hammermill Paper Co. on Thursday, August 8.

As guests of Hammermill, the group will leave Buffalo by bus at 8:30 a.m. At the company's administration building, a talk will be given the group followed by lunch in the plant cafeteria. The afternoon will be devoted to a trip through the mill to see paper in the making. The group will then adjourn by bus to a hotel for cocktails and dinner. The return trip will bring the group back to Buffalo by 10 p.m.

The committee reports that limited registrations are necessary for this trip. Early requests received with convention registration fees will be given first consideration. Request deadline is June 1.

Registration fees are as follows: Craftsmen, $30; ladies, $18; preteen children (9-12), $8; teenagers, $15. Registrations may be sent to: J. Stanley Clark, reservations chairman, Interchemical Corporation, 77 Dingens St., Buffalo 6, N. Y. Make checks payable to Craftmen's Convention Committee.

Feather Acquires Offset Firm

The William Feather Co., Cleveland's largest commercial letterpress printing firm, has purchased the D. E. Robinson Co., also of Cleveland, and for the first time has entered the fields of offset lithography and mechanical direct mail. According to William Feather, jr., president of the Feather company, the Robinson acquisition will provide facilities for offset platemaking and presswork as well as for all forms of direct mail work.

Robinson's facilities include camera and stripping departments and Harris offset presses ranging from 17½ in. by 22½ in. to 22 in. by 34 in. The direct mail division is equipped with Addressograph, Elliott and Speedaumat systems for automatically addressing envelopes. Duplicating and imprinting equipment includes Multigraph, Multilith and Mimeograph machines. Robinson also maintains a bindery which includes Seybold cutting, Baum folding and Rosback stitching equipment.

The acquisition provides Feather with one of the most complete printing services. Its new 60,000 sq. ft. plant, opened in 1955, houses departments for art, typesetting, photoengraving, press and bindery operations. The company is presently installing electrotype equipment at a cost of $75 thousand.

The 30-year-old Robinson company occupies 30,000 sq. ft. in its quarters in downtown Cleveland. Feather, jr., announced the company will continue to function as a unit of the Feather organization in its present location under the direction of Creighton H. Davies. There are plans, however, for moving all Robinson operations into an addition to the Feather plant to be built in the near future.

Robinson employs 35, bringing total employment in the Feather organization to 275 persons. Robinson's annual sales of $425 thousand

William Feather, Sr., now vice president of the firm he founded, and his son who recently became president.

will bring Feather's combined sales volume to $3.5 million annually. During the last 10 years, Feather's sales volume increased eight-fold. Much of this additional volume has been gained through acquisitions of allied companies during the last six years. The company produces advertising and sales literature for industrial firms and advertising agencies.

Forecasts More Presses for Rotary Business Forms Field

A presentation of the growth of the rotary business forms field in terms of press inventory and sales volume was among the highlights of the annual spring meeting of the Rotary Business Forms Section of Printing Industry of America held at Edgewater Beach Hotel, Chicago, Feb. 21-22. The 170 executives in attendance witnessed the elevation of Bayard Shumate, Shumate, Incorporated, Lebanon, Ind., to the presidency of the section.

A forecast that 220 presses for business forms printing would be installed in the industry in 1957 was made by Garner Dunkerley, jr., Ennis Tag & Salesbook Co., Ennis, Tex. The speaker presented a chart of estimated rotary press inventory and stressed the danger of productive capacity outgrowing potential markets.

Estimates 1381 Presses

Dunkerley's estimates showed there were 577 rotary presses for business forms printing on hand in 1947; the industry retired 151 presses between 1947 and 1956; it purchased 955 presses during that same period; and at the end of 1956 there were 1381 such presses in operation. The estimated 220 new press installations to be made this year, according to the speaker, will add a potential production capacity of $40 million.

His estimates on 1956 business forms sales were as follows: Sales books, $34 million; register forms, $26 million; unit sets, $168 million; strip forms, $80 million. The estimated total sales volume would amount to $308 million.

A prediction that the rotary business forms industry will soon be doing "half a billion dollars of sales" was made by M. B. E. Clarkson, The Clarkson Press, Inc., Buffalo, N.Y., and retiring president of the section.

In his final report, Clarkson said: "The time has long since passed when a close mouthed policy has done this industry (business forms) any good. No one company making rotary business forms . . . can stand alone and set its course independently of the industry as a whole." He called for a free exchange of information, knowledge and ideas.

In addition to President Shumate, other officers elected were: C. C. Barfield, Harry Barfield Co., Atlanta, Ga., vice president; Gordon Rohde, Reynolds & Reynolds Co., Dayton, O., secretary; and Marvin Gale, Gale Printing Co., Caro, Mich., treasurer. Bernard J. Taymans continues as executive director of the section and Frank J. Bagamery, Graphic Arts Assoc. of Illinois, Chicago, is secretarial representative.

Members of the executive committee are: Geo. W. Alt, jr., Baltimore Salesbook Co., Baltimore, Md.; G. D. Blanchard, Rein Company, Houston, Tex.; William R. Brown, Chas. E. Brown Printing Co., Kansas City, Mo.; Garner Dunkerley, jr., Ennis Tag & Salesbook Co., Ennis, Tex.; Arnold Greenfield, Alfred Allen Watts Co., Inc., Belleville, N.J.; Harold Holden, Holden Business Forms Co., Minneapolis, Minn.; M. G. Lewis, M. G. Lewis Printing Co., Jacksonville, Fla.; Frank F. Pfeiffer, Reynolds & Reynolds Co., Dayton, O.; Ed Roberts, Mount Royal Press, Ltd., Montreal, Can.; Max W. Roos, Eveready Manifold Corp., Chicago; and Homer F. Woehrmyer, Woehrmyer Printing Co., Denver, Colo.

Speaking on materials handling at the Rotary Business Forms Section meeting, left to right, were: Bert Woldring, Rapids Standard Co.; C. C. Barfield, Harry Barfield Co., Atlanta, Ga.; Samuel H. Isaacs, materials management consultant; and M. J. Drackett, Clark Equipment Co.

A number of demonstrations of equipment for producing business forms were scheduled to coincide with the two-day meeting. This equipment included the ATF Green Hornet two-color offset press; Speed-Klect sheet collating machine by Didde-Glaser, Inc.; presses and a collator by Orville Dutro & Son, Inc.; a two-color dry offset press by Hamilton Tool Co.; offset and flexographic presses, collator, setmaker and continuous forms zigzag folder by E. G. Ryan & Co.; and an 11-station collator by Schriber Machinery Co.

Participants in a panel-type session on materials handling were: Samuel H. Isaacs, materials management consultant; M. J. Drackett, sales manager, Clark Equipment Co., and Bert Woldring, director of products and market development, Rapids Standard Co. Speaking on the topic of paper standards were: Arthur C. Dreshfield, Chicago Testing Laboratory; W. A. Ketchen, Fraser Paper, Ltd.; Gerard E. Veneman, Nekoosa-Edwards Paper Co.; A. L. Davidson, International Business Machines Corp.; Arnold Greenfield, Alfred Allen Watts Co., Belleville, N. J.

New officers of PIA's Rotary Business Forms Section, left to right, are: M. B. E. Clarkson, Clarkson Press, Inc., Buffalo, N. Y., immediate past president; Gordon H. Rohde, Reynolds & Reynolds Co., Dayton, O., secretary; Bayard S. Shumate, Shumate, Incorporated, Lebanon, Ind., president; and C. C. Barfield, Harry Barfield Co., Atlanta, Ga., vice president. Also shown is Joseph Steir, Alfred Allen Watts Co., Belleville, N. J.

Formalizing of purchase agreement between Wood Newspaper Machinery Corp. and Walter Scott and Co., Inc. Seated, left to right, are: John J. Shea, president, Wood Newspaper Machinery Corp., and David J. Scott, president, Walter Scott & Co., Inc. Standing: Ogden Hewitt, director of Wood; Isabella M. Scott and Walter C. Scott, vice president, both of Scott.

Wood Newspaper Buys Scott— Both Leading Equipment Firms

The Wood Newspaper Machinery Corp. has bought Walter Scott & Co., also a manufacturer of newspaper printing presses and printing equipment, it was announced yesterday by John J. Shea, president of Wood. Both firms are located in Plainfield, N. J.

The transaction involved the purchase of all capital stock, but no figures were announced. Scott was privately owned by the three children of the late founder, who controlled all of the company's 15,000 shares of capital stock. David Scott, the president, will become an executive and board member of the new organization, Shea said.

"We shall continue to operate the Scott plant and to manufacture and service all Scott products," he stated. "All Scott customers are guaranteed the Wood high standard of service. I also am happy to reassure Scott personnel that no changes of any extent are contemplated. Both companies have a backlog of business—Wood $9,500,000; Scott $4,600,000—that will keep both going at top speed for the next two years.

"The acquisition of the Scott concern will broaden the scope of our production and the combination of the two research staffs may be expected to enhance the tradition each company has enjoyed for decades for evolving notable advances in newspaper printing, including ROP color and printing equipment."

Reports High Sales

Wood enjoyed one of the best sales-and-earnings years in its history last year. Orders received were $9,250,000. Scott's orders-received last year were $3,500,000.

Shea said that among Wood's orders were contracts with the Buffalo (N. Y.) *Evening News;* Garden City (N. Y.) *News Day;* Hartford (Conn.) *Courant;* Daytona Beach (Fla.) *News-Journal;* Huntington (W. Va.) *Herald Dispatch,* and the New York (N. Y.) *Times.*

Among Scott's backlog he listed the San Francisco *Examiner;* Santa Ana (Calif.) *Register;* Newark (N. J.) *Evening News;* Hackensack (N. J.) *Bergen Evening Record;* Buffalo (N. Y.) *Courier Express;* Phoenix (Ariz.) *Republican Gazette;* Winnipeg (Can.) *Free Press,* and Quebec (Can.) *Le Soleil Limitee.*

The Wood company, founded in 1858, is a leading manufacturer of high-production stereotype plate-casting equipment and all types of precision newspaper presses, reels, tensions and autopasters.

Scott is noted for its presses, paper roll stands and magazine reels. Both concerns have pioneered in the development of high-speed printing presses and printing equipment and both hold important basic patents. During World Wars I and II, both devoted themselves to war production and won several E awards.

The combined area of both plants totals approx. 400,000 sq. ft.

The Scott Company

When the late Walter Scott launched his enterprise in 1874, newspaper presses in general use were single-roll, two-plate-wide machines delivering flat sheets of eight pages —four on each side of the sheet. Newspaper machinery was driven by belts from steam engines. The paper was folded by separate hand fed folding machines. Many attempts had been made by the principal builders of that date to attach folding machines to the presses, but none had been successful until, in 1874, Scott built and operated successfully the first folding machine attachment to a newspaper press.

Among other Scott "firsts" were: A multiunit press installed at the Worcester (Mass.) *Telegram* in 1911, followed by many other installations of this type for convenience of space allocation; the introduction in 1924 of the first press capable of printing 48,000 newspapers per hour; the introduction in 1947 of superimposed color printing units with universal bay window angle bars, whereby color may be printed on any page of the newspaper.

The Wood company has concentrated on three departments of newspaper work: Stereotype foundry, pressroom, and reelroom.

Among the "firsts" the company considers most significant the installation in 1876, for the Cleveland *Leader,* of its newspaper perfecting press, which printed 12,000 copies per hour and was the first press to print, insert, fold and cut in one continuous operation.

In 1901, the introduction of its Autoplate, the first of which was installed the same year at the New York (N. Y.) *Herald Tribune* and which replaced hand platemaking generally. In 1928, the New York *Times* was the first to install an improved model that doubled the speed and reduced the cost of making newspaper printing plates.

In 1931, the New York *Times* was again the first to use the revolutionary new Autopaster. This was a device which automatically substitutes full rolls of newsprint paper for expiring rolls at intervals of a few minutes while operating at the full high speeds at which newspapers are printed.

As a result of the Wood company's extensive development of machinery for printing newspapers and the numerous patents it owns, its products are used by many newspapers throughout the world. Linotype & Machinery, Ltd., London, England, has the exclusive manufacturing and sales rights for the Autoplate machinery in the Eastern Hemisphere and Witton-James, Ltd., also of London, has similar rights for the Autopaster.

Vickers-Armstrong Ltd., London, represents the Scott company for the sale of complete rotary newspaper and rotary magazine presses in Europe, Africa, Australia, New Zealand and parts of Asia. Shea said these arrangements will be continued.

Stulz Elected GTA Head

Ted Stulz, secretary-treasurer and director of Parade Publications, New York, N. Y., became president of Gravure Technical Assoc. at its convention, held March 6-8 at Chicago's Drake Hotel. Convention registration reached a record 800. Other officers elected were: William W. Fitzhugh, jr., William W. Fitzhugh, Inc., Brooklyn, N. Y., first vice president; Jerome B. Fisher, Publication Corporation, New York, N. Y., second vice president; Frank A. Sportelli, International Color Gravure, Inc., New York, N. Y., treasurer, and Joseph W. Feeney, Lord Baltimore Press, Baltimore, Md., secretary.

Among the important developments discussed were: The announcement that Vandercook and Sons will undertake development of a proofing press for the rotogravure field and, the perfection of a gauge for measuring the circumference of cylinders.

Newspaper Operations Scrutinized At Northwest Mechanical Meet

500 executives hear of new and improved machines and processes at St. Paul conclave • By HORACE ANNIS

Progress in the development of improved newspaper printing equipment and processes, including phototypesetting, electronic engraving and high-speed etching, as well as discussions on stereotype and mailroom machinery, were reported at the 14th Annual Northwest Mechanical Conference held in St. Paul, Minn., Feb. 23-25. The meeting drew an attendance of nearly 500, representing 15 states and one province of Canada.

Planning for the conference was conducted under Northwest Conference Pres. Ralph West, stereo superintendent, St. Paul (Minn.) *Pioneer Press* and *Dispatch*. Although new officers are not elected until a date after the conference, it was expected that Ebbie Jennison, engraving superintendent, Minneapolis (Minn.) *Star* and *Tribune*, would be elevated to the presidency of the Northwest group. It was also expected that O. J. (Bud) Howard, composing foreman, St. Paul (Minn.) *Pioneer Press* and *Dispatch* would be named first vice president, and Ralph N. Carson, linecasting instructor, Dunwoody Industrial Institute, Minneapolis, would be re-elected secretary-treasurer.

The 1958 Northwest Conference will be held at the Radisson Hotel, Minneapolis, Feb. 22-24.

Concurrent opening meetings on photoengraving and linecasting machine maintenance were led respectively by Ben Reisdorff and Joe Cory, both of St. Paul (Minn.) *Pioneer Press* and *Dispatch*.

ROP Color Requires Speed

Leading off the photoengravers' speaking program was Fred W. Wentzel, technical director, Intl. Photoengravers Union of North America. He spoke on *Color Separation Photography for ROP*. Noting that color separation photography for ROP reproduction does not differ greatly from that for commercial use, Wentzel pointed out that ROP processes have some special requirements, one of the most important of which is speed. At the same time, he said, the work must be well balanced and represent accurate records of primary colors in the original. Consideration must also be given, he said, to the type of etching process employed in the newspaper plant.

Other special requirements for newspaper ROP color were noted as follows: The separation negatives must be adapted to the newsprint stock and the inks commonly used; the type of copy should be considered, and the separation photography procedures suited to it.

Wentzel offered the following rules for selection and installation of photographic equipment: (1) Find out which process or method fits your operation best. (2) Determine what equipment will suit this process or method and then get the best you can possibly afford. (3) Consult the craftsmen who will operate this equipment and make use of their experience. They have to work with it every day. They are not interested in fancy and useless gadgets. If they have a part in the selection they are more apt to try their best to make it work.

Speed and easy handling could well make the contact screen a valuable asset in the newspaper engraving room, the speaker said, not only for ROP color, but for black and white as well. He noted that until lately it was used mostly in lithography and not considered particularly useful in engraving. The litho screen was, however, modified and this version is being slowly accepted.

Ebbie Jennison, photoengraving foreman, Minneapolis (Minn.) *Star* and *Tribune*, becomes new president of Northwest Mechanical Conference.

A talk on *Powderless Etching on Zinc* was given by George L. Rothermel, Imperial Type Metal Co., which was followed by a discussion on electronic engraving by Judson A. V. Hyatt, vice president and general manager, Fairchid Graphic Equipment, Inc.

Those in the photoengraving trades need not fear electronic engraving, Hyatt said, because the operation of the electronic engravers will not require knowledge of electronics and will still require the know-how of engraving and photo-chemistry. He explained that through electronics the curve of response of light to photographic emulsions can be varied at will, a thing that is not possible through straight photographic methods. This, he said, makes it possible to overcome the problem of expanding highlights or middletones.

As to the computation function of electronic engraving, the speaker noted that the same technique used in Sperry-Rand and IBM computers can be applied to platemaking. Photographic masking and color correction techniques can be resolved into mathematical equations, he said. This information, he added, can be fed into a computer and the equations solved for any given original with the proper adjustment of the machine.

Other speakers at the engraving session were a representative of Dow Chemical Co., and Frank Bonner, Rolled Plate Metal Co., who discussed his company's Micro-Metal powderless etch zinc.

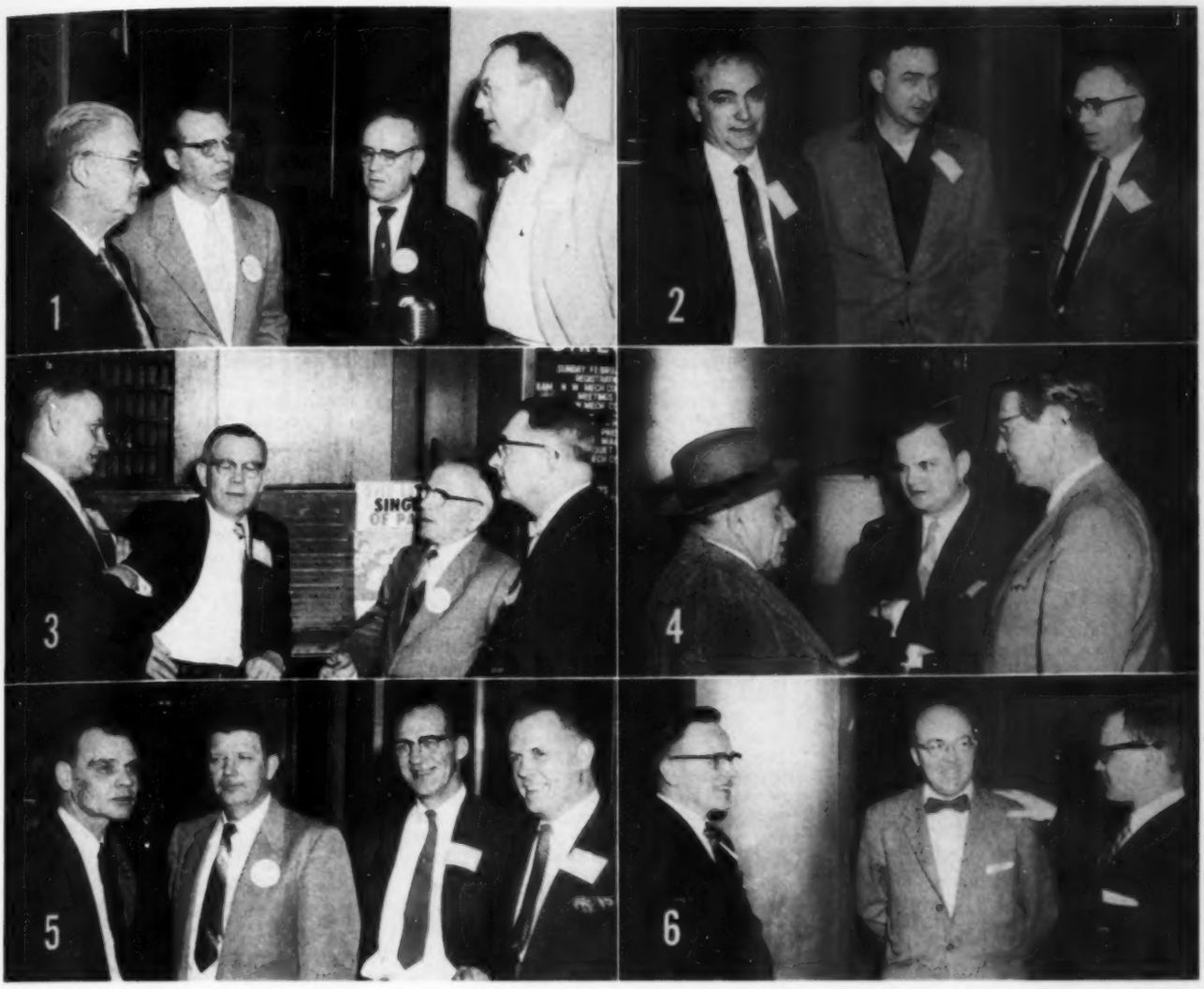
Linecasting Machinists Clinic

The linecasting machinists clinic embodied four main features: A discussion on care and maintenance of type metal by W. S. Coulson, Imperial Type Metal Co.; showing of slides on the Linofilm phototypesetting machine by Ralph Roth, Mergenthaler Linotype Co.; a question and answer period, and a showing of an electronic quadder on a linecasting machine at the St. Paul (Minn.) *Pioneer Press* and *Dispatch*.

Speaking on proper remelting procedures, Coulson suggested that first the pot should be filled with dead metal and heated to 650-675 deg. F. at which temperature the dross will separate from the metal and the alloy given a good grain structure in the new pigs. He added that when metal is drossed at lower temperatures a dross high in pure type metal is taken off.

The question and answer period produced the following:

Q. What causes a strip of metal to be formed on the bottom of certain slugs? A. Unless the knife wiper does a good job, the blower can blow some chips into the knife block and



Among the 500 Attending Northwest Mechanical Conference

(All names read from left to right.)

1—Discussing the conference from the Rochester (Minn.) *Post Bulletin* are: Wallace Culver, Robert Skar, Ken Moorhead and Russell Mayer.

2—A group from the Duluth (Minn.) *Herald* and *News Tribune:* Charles Malnati, Roger Wilkinson and Tony Malnati.

3—Involved in discussion are: Francis Height, Watertown (S.D.) *Public Opinion;* E. F. McComish, Mitchell (S.D.) *Republic;* Max Kuppers, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* A. L. Andraschko, also of the *Public Opinion.*

4—Chatting are: Joe Cory, head linecasting machinist, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* Sheridan Skogen and Howard Moad, Intertype Corporation.

5—Supplymen and newspaper men getting together are: Harvey Spanyers and Don Little, Minneapolis (Minn.) *Star* and *Tribune;* Rollo Lewis, New England Newspaper Supply Co.; Robert Buckley, Ludlow Typograph Co.

6—A visitor from Canada is Harry F. Spragg, Toronto (Ont.) *Star* with Gil Dayton, Cline Electric Mfg. Co.; and Robert Withers, Rochester (Minn.) *Post Bulletin.*

these chips will adhere to the next hot slug. Also suggested was that the trouble might be caused by a mold with rounded corners or that the ejector blades are not parallel.

Q. The left hand vise jaw will not close on an 11½ pica line. Will the Model G Intertype set a line tight enough to cause this? The type overhangs on the left end of the slug. The vise jaw mechanism is not badly worn and has been adjusted the same as on other machines. The problem is most apparent when casting 24 to 30 pt. from single letter matrices in the black face position. Replacing the jaws with another pair reduced the overhang. A. The answers developed that the line was being set with one spaceband and that this was probably building up too much pressure. This condition could also be attributed to the improper operation of the vise closing justification which may be dirty and in need of a good oiling, or to a weak spring which needs to be replaced or readjusted. Also, it might be that the vise jaw rack adjusting screw collar is in need of adjustment so that it will not strike the frame. In casting 24 and 30 pt. matrices, the first elevator front and back jaws should be checked to allow freedom of the matrices in the jaws.

Q. Can Linotype Spartan Medium be redesigned, allowing more lead so the centers aren't "dragged off" when the molds break from the mat? A. This is identified as damage to the descenders and the cause of it is in the machine—not the matrices. It will help to hold your first elevator up and down "shake" to a very close tolerance and be sure there is no lost motion in your first elevator barrel linkage. Adjustment is obtained by large screw at top of first elevator slide. Damage such as this is caused either by mold slide not returning soon enough or the "drop" or relaxing of the first elevator slide being excessive, therefore allowing the routing or shelf of the matrix character to strike the descending portion of the character on the slug.

Q. We are having difficulty in keeping spacebands free of metal buildup. We have ground the jaws and checked the lockup. A. If this is a high speed machine, cleaning spacebands twice a day may not be enough. If it is on a Teletypesetter-operated machine the spaceband

Answering linecasting machine questions at Northwest Conference were: William Gordon, head machinist, Minneapolis (Minn.) *Star* and *Tribune;* W. H. Grayson, Mergenthaler Linotype Co.; William Williams, Williams Linotype Repair, Minneapolis; George Curle, machinist, Minneapolis *Star* and *Tribune;* Otto Volkert, Commercial Press, Minneapolis.

cleaning schedule should be set up on a basis of how many lines are set—not at regularly timed intervals.

Introduces 'Capsule Conference'

What was called a Capsule Conference was introduced for the first time at the Northwest meeting, with Al Rosene, production manager, St. Paul *Pioneer Press* and *Dispatch,* as moderator. One of the speakers was A. C. McCain, Ortman-McCain Co., who discussed a dry powder spray device which prevents newspaper offset. He pointed out that through the use of this system bad smearing of pages next to color is avoided. The system is particularly useful for those papers with stuffing machines, he said, since there is no sticking together of papers, each one sliding free from the next one.

McCain was queried on the system as follows: Q. Is the device geared with the press so that it slows down with the press when that is necessary? A. We found that was not necessary although we could make it automatic. It makes little dirt on the press because little powder is used.

Q. What effect would the powder have in an air conditioned pressroom? A. None at all. It is presently being used in just such pressrooms.

Bob Withers, Rochester (Minn.) *Post Bulletin,* discussed the problems attendant to planning and moving into a new plant. One of the most important things and one of the first, he said, is to consult with a newspaper architect. His own company did not start with one and is sorry about it now, he added. Newspaper architects might cost more at the beginning but at the end you are sure to wind up saving money, he declared. The Rochester paper has overall space of 30,000 sq. ft. including a basement and two floors.

The composing room has been designed with no posts and in consequence, layout of machines and their installation was easier. On-the-floor proofrooms have also been installed.

Cost of the plant was $17.25 per sq. ft., according to Withers. Ceilings are insulated metal panel-type in which any section may be removed. Pipe lines and conduits are immediately below the ceilings for convenience in installing future equipment.

Stereo-Press Session

The stereotype, pressroom and maintenance machinists clinic was presided over by Don Little, Minneapolis *Star* and *Tribune,* and Bill Benson and Gil Dunn, St. Paul *Pioneer Press* and *Dispatch.* On the program was a presentation of slides of M.A.N. plate casting equipment with Wallace W. Dumbrow, R. Hoe & Co., as commentator.

In pointing out some of the features of the M.A.N. machines, Dumbrow said that because of the direct connection between pot mouthpiece and casting box, oxidizing through exposure to the air is eliminated and a 50% reduction in casting temperature is made possible.

Dumbrow's talk resulted in the following questions and answers.

Q. Is it true that the plate can be put onto the press without shaving? A. Yes, they do that in Europe. Here we would probably want a little finer tolerance.

Q. How do you handle register? A. There are two register principles. After the mat is rolled and trimmed it is put into a register rack and registered with two needle points. Then you punch two elongated holes, running parallel with the plate, around the curvature of the plate. When that mat gets into the casting box there are two spring pins that fit into these slots and the mat can be controlled from creeping in any direction and can be lined up parallel with the cylinder.

William Kihn, sales engineer, Wood Newspaper Machinery Co., discussed the new Standard Pony Autoplate and Color Plate Pre-register attachment. Kihn noted the following changes in the machine: Noise has been reduced by belt drive instead of the previous gears. The water supply is thermostatically controlled. Plate lifters are now equipped with a spring followup which keeps a constant pressure on the plate while it is being shaved. Beveling tool is attached to knife bar which makes adjustments easier.

A film, *Replate* produced by Goss Printing Press Co., in cooperation with the Peoria (Ill.) *Journal Star,* showed operation of Goss casting equipment at that paper.

Mailroom Developments

The mailroom clinic, chairmanned by Ed Griffin, St. Paul *Pioneer Press* and *Dispatch,* began with a talk by William Powers, T. W. & C. B. Sheridan Co., in which he discussed the Sheridan inserting machine and the Sheridan top and bottom wrapper equipment. Powers reported that a memory device has been perfected to increase the efficiency of the inserting machine. For instance, he said, if the machine is operating at 12,000 papers an hour and there is a stop, and it takes 30 seconds to start the machine again, quite a few papers have been lost—perhaps about 100 of them. Therefore, the more heads that are running, the easier it is to catch up. This memory device, he said, memorizes and operates in this fashion: If the No. 1 head fails to feed that will send up a signal to the pocket it was supposed to be feeding. The No. 1 bucket, when it gets all the way around to the end will discharge the paper in the opposite direction that the kicker will kick the paper. All the other heads will feed. If the No. 1 hopper misses one form, the machine will not stop because the memory device will take over. Even if it misses two forms the machine will not stop because the memory device can maintain two forms. If three forms are missed the machine will stop.

Powers also commented on Sheridan's bottom and top wrapper device which has been installed on a trial basis at the Milwaukee *Journal.* At present, he said, the bottom wrapper application is very effective. For the bottom half, a uniform

(*Continued on Page* 87)

The clocks keep ticking away. We need your dollars to make each minute count in the fight against cancer.

With $70, we can buy an eyepiece micrometer... $48 buys a laboratory flowmeter... $15 buys an instrument sterilizer... $3.75 a hematocrit reader.

Only you can decide how much you can afford to send. But send it *today,* to help us keep moving ahead in the struggle to save lives.

Send your check to "Cancer" c/o your local Post Office.

AMERICAN CANCER SOCIETY

The gravure printing industry was discussed at a recent New York Craftsmen's Club meeting. Speakers were, left to right: Robert P. Long, Graphic Magazines, Inc.; Robert H. Brown, Art Gravure Corp.; Charles J. Felten, first vice president, New York Craftsmen's Club; and Robert C. McCain, Photogravure & Color Co., all of New York, N. Y.

Impact of Gravure Process On Graphic Arts Industry

By ADAM HENRI REISER, Eastern Editor

The impact of the gravure printing process on today's market, the wide variety of items printed by gravure and the tremendous number of impressions obtainable from a single gravure plate or cylinder were among the points discussed by a panel of speakers at a recent meeting of the New York Craftsmen's Club. Titling their program, *Glamour of Gravure (Roto and Sheet Fed)*, the speakers were: Robert P. Long, editorial director, Graphic Magazines, Inc.; Robert H. Brown, sales promotion manager, Art Gravure Corp., and Robert C. McCain, Photogravure & Color Co., all of New York, N. Y.

It was emphasized during the discussions that gravure needs long runs in order to be a profitable printing medium. Speeds of 1000 ft. per min. are common with many jobs calling for six or seven colors to be printed once through the press. Also, much of the work calls for sizing, varnishing, lacquering, slitting and die cutting which, along with the printing and drying of ink, are performed in one continuous operation.

Electronic register controls and stroboscopic devices for viewing the printing and thereby checking register have become standard equipment on many gravure presses. Web widths vary all the way from 2¼ in. up to 100 in. The Marlboro cigarette flip-top box was named as one of the most recent outstanding products of the gravure industry. It was reported 150,000 such boxes are printed every hour in two colors and black, with sizing, drying, die cutting, creasing and delivery all performed on the press.

Gravure vs. Offset

While the number of steps in the preparation of a gravure plate or cylinder are the same as deep-etch offset, the gravure plate costs more and takes longer to produce. In many instances, said the panel members, a superior job can be produced for less money because a cheaper paper can be used. Gravure is often used for the reproduction of illustrations, with the offset process resorted to for printing the type used with these illustrations. Gravure enjoys an advantage over other processes in its immediate drying of inks used in printing, a factor employed in foil printing by gravure.

The gravure process is able to reproduce illustrations with exceptional quality, stated one speaker. It can be a help to both letterpress and offset printers on certain jobs if they keep an open mind on the process.

The volume of work produced by gravure for the packaging field has experienced phenomenal growth which has been attributed to the rise in popularity of the super market. It has been estimated that one-half of all printing inks manufactured are used in packaging.

Tea bag tags run on a 15 in. web, slit and rewound in a single roll, are produced at the rate of 45 million per month. Razor blade wrappers with coated punches on the edge of the strip, are run by gravure and then rewound in single die cut strips. Another fertile field has been the beer label printed on foil. The cork tipped cigarette is another gravure product, run on a 2 in. web. Match books run in three and four colors, wall paper, vinyl patch pockets, pseudo leather upholstery, vinyl linings for use inside automobiles, imitation taffeta, tablecloths, shower curtains, vinyl plastic run up to 72 in. widths and embossed in two colors are other products of gravure.

A recent development in the gravure process is that of gravure-offset. In this technique, the gravure cylinder offsets the image to a rubber blanket, and in that way, permits the printing of a design on an extremely rough surfaced stock.

It was reported that 40 magazines with large circulations are now being printed by gravure. Also, 90% of the mail order catalogs are run on rotogravure presses.

Increasing Plate Life

Chrome facing the image on printing cylinders greatly lengthens the life of the plate. It is possible to replace the image every 200,000 to 300,000 impressions. Thus, stripping and recoating permit as many as 700,000 impressions from a single plate. However, on magazine printing cylinders that were non-chromed runs up to 500,-

(*Continued on Page* 83

"Are you sure you misplaced your halftone screens?"

Fig. 1.—View of Monotype keyboard which may be used both for hot metal and phototypesetting composition. The paper ribbon is inserted in the Monophoto unit at right. After making the necessary adjustments, the machine is automatic in operation. The case carrying the light sensitive film is shown at left of the Monophoto unit.

Monophoto in Commercial Plant Use

Lanston Monotype recently announced first installation of the commercial model of Monophoto in the United States in the plant of Westcott & Thomson, Inc., Philadelphia. The second installation is scheduled for the Philadelphia printing plant of E. I. du Pont de Nemours Co.

A standard Monotype keyboard is used to perforate the controller paper for the Monophoto. Keyboard procedures are the same as used on hot metal Monotypes.

Basic mechanical principles of the Monotype composition caster are embodied in the Monophoto which is controlled by a paper tape perforated on the keyboard. (Fig. 1) Composition is by individual characters based on a unit system of values. Maximum line width is 60 picas, which can be composed in separate columns of lesser widths. A line-killer is incorporated for keyboard errors. Facilities are provided for automatic quadding and centering.

Master Negative Case

The same keyboard operating equipment (keybanks, keybars, stopbars) can be used to perforate separate controller paper for either photo or hot metal composition.

The master negative case used in the composition reproducer is a solid glass negative, having 255 characters with space positions. Each character on the negative is approx. 8 points in size, and the characters are arranged in unit rows identical to the principle employed with bronze matrices used for hot metal composition. Sometime during 1957, individual character negatives will be made available so that it will be possible to make individual character changes in the master negative case. Master negative case arrangements can be made to correspond with any standard or special layout.

Optical System

The optical system (Fig. 2) consists of a prefocused light bulb (A) operating from a voltage-regulated source; (B) a condenser lens which concentrates the light output to give intense illumination over the area of the character on the master negative; (this area is a 0.2-in. sq.); (C) an optical flat which adjusts the path of light so that, regardless of the degree of enlargement or reduction of the character, the left-hand margin will fall at the same point; (D) two prisms which bend the light thus permitting the optical system to occupy less space in the machine; (E) a single lens (10 in. focal length) and (F) two 45 deg. flat surface mirrors which reflect the image on the film. Through the use of these flat surface mirrors, the distance the light beam travels is always constant, regardless of where it falls on the film.

The use of a single lens and focusing bars is claimed to make it possible to adjust the focusing bars to the point size tolerances set up in the hot metal process. It is also claimed that with the single lens system used in Monophoto all sizes of type can be held in perfect alignment.

Film Drum

The film drum eliminates possibility of the film surface rubbing against another surface, because the film remains stationary on the drum. Movement of the gear-controlled drum positions the film from line to line. If necessary, the film can be returned to any previously set line. The film drum advances mechanically in increments of ½ point. Positive control by the drum over the film makes it possible to back up the film and reset the stop on the mirror bar. Thus columns may be placed side by side even though they were keyboarded as one column. It is also possible to set all of one size, including mixed roman, small caps,

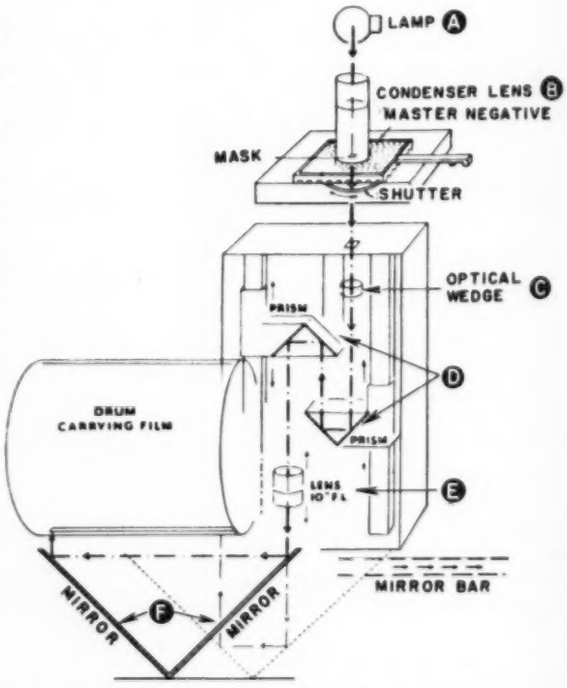


Fig. 2.—This diagram is illustrative of Monophoto filmsetting machine. The optical system consists primarily of the following parts: At *A* is indicated a prefocused lamp operating from a voltage-regulated source. *B* is the condenser lens which concentrates the light output to give intense illumination over the area of the character on the master negative. The path of light is adjusted by optical flat *C* so that regardless of degree of letter character enlargement or reduction, the left hand type margin will fall at the same point. At *D* there are two prisms which bend the light to permit the optical system to occupy less space in the machine. A single 10 in. focal length lens is shown at *E*. The two 45 deg. flat surface mirrors *F* reflect the type image on the film. The film itself is fastened in stationary position on the film drum. The drum rotates carrying the film with it in increments of ½ point. Line spacing (leading) can be decided after the keyboarding has been completed without repeating the manual operation of keyboarding.

italic, and boldface in the job, and then back up the film to spot in the next size in its proper position. Line spacing (leading) can be decided after the keyboarding has been completed without repeating the manual operation of keyboarding.

The film drum will accommodate a sheet of film 11⅛ in. wide by 26 in. long to provide for composition 60 picas (10 in.) wide by 24 in. deep. However, any size film for a specific job can be used. Any photographic film (thin base, thick base or stripping film) can be used in the machine. Photographic paper can also be used, when it is desired to make a right reading negative from it.

Safety Devices

Monophoto is equipped with safety devices so that the machine stops operating if the light source fails to function or if the compressed air pressure falls below its specified limit. Since the machine is automatic in operation, the safety devices call attention by stopping the machine.

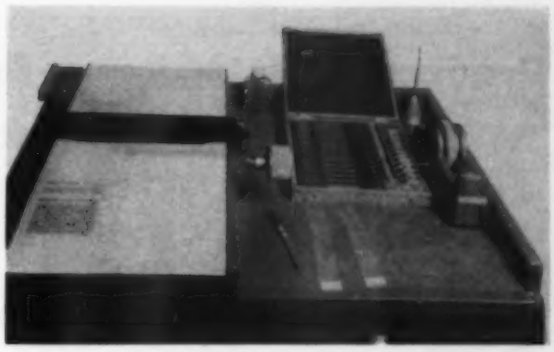


Fig. 3.—Monophoto film correction device. Essentially, this equipment consists of a small hand tool and a rigid guide to remove the emulsion from the film base and to accurately position the corrected line or lines which have been set on the stripping film.

Correction Device

The correction device consists essentially of a small hand tool and rigid guide. It is used to remove the emulsion from the film base and to accurately position the replacement corrected line or lines which are set on stripping film. Since only the emulsion is replaced, it is not necessary to burn in the lines caused by diffraction of light as when the base is also cut. This makes it possible to give correct exposure in platemaking. It also enables the holding of fine serifs and sharp definition.

European Printing Exhibition

By BENJAMIN SUGARMAN*

**President, Consolidated International Equipment & Supply Co.*

Europe's big printing exhibition extravaganza this year will take place at Lausanne, Switzerland, on June 1-16, and is expected to attract several thousand representatives of the Graphic Arts from throughout the world. Called Graphic 57, the mammoth show will occupy 15 exhibit buildings of Lausanne's Comptoir Suisse.

Graphic 57 will be held on a site comprising 1,800,000 sq. ft. of buildings, gardens, fountains and exhibit halls. More than 400,000 sq. ft. will be devoted to exhibits of over 400 world-wide printing equipment and supply firms. Arrangements are being made for visitations to printing plants and equipment factories.

Meeting at Lausanne on June 3-8 will be the Ninth Intl. Congress of Printing Industries, which convenes once every three years. Over 1000 printing leaders from throughout the world are expected to attend. The meeting hall of Comptoir Suisse will accommodate over 2000 people. The four official languages of the Congress (English, French, German and Italian) will be simultaneously interpreted over a public address system similar to that employed by the United Nations.

One of the biggest exhibits at Graphic 57 will be that of American and European printing equipment manufacturers who will display their latest machines. Included will be the German manufacturers of Goebel, Darmstadt, with its line of form printing and gravure machinery. The firm of Algra, agents for Alberts Frankenthal of Germany, will show letterpress, sheet fed gravure and small web fed gravure presses. The Italian manufacturer, Nebiolo, will also be represented. Consolidated's Printerama exhibition, transplanted from the United States, will include cameras and an offset press for inspection by printers.

The offset press arena will include a two-color offset press of Swiss design and manufacture with the latest developments in wet and dry offset printing. The M.A.N. offset presses of Augsburg, Germany, will also be on display. The Swiss firm of Bobst & Fils will show automatic carton die cutting and embossing machines, automatic carton and box making machines, multicolor wet and dry offset presses, letterpresses, etc. Italy's Omsca letterpress and offset presses will be displayed, as well as a letterpress cylinder press and Linotype machines by Linotype Co. of England. The Italian rotogravure firm of Ceruti of Milan will show its latest line.

Another of the exhibits will include a display of an M.A.N. newspaper press. Faber & Schleichner, Offenbach, Germany, will display its line of offset presses which are distributed in the United States by Miehle Printing Press & Mfg. Co. The Winkler-Fallert organization will show a rotary press printing a newspaper, as well as stereotype equipment. The Fairchild, Elgrama, Dr-Ing and Rudolf Hell electronic engravers and scanners will also be on display, as will Klimsch cameras and platemaking equipment.

There will be two buildings devoted to exhibits of paper, ink and cardboard. The best in fine printing by all processes will make up still another exhibit.

Consolidated International Equipment & Supply Co., 1112 N. Homan Ave., Chicago 51, has prepared a series of tours and excursions at special rates for the American printer interested in attending Graphic 57.

Graphic Arts Orientation

Programs, entitled Orientation in Graphic Arts, have been made available by Rochester Institute of Technology. The full time programs, available during June and July, 1957, are either tailored to specific needs of a single company or directed toward a specific area of the industry. Inquiries should be directed to: Robert D. Pease, associate director, Evening Division, Rochester Institute of Technology, 65 Plymouth Ave. South, Rochester 8, N. Y.

Producing Better Repro Proofs On Your Linecasting Machines

By QUIDO E. HERMAN*

**Manager, West Coast Agency, Star Parts, Inc., Los Angeles*

The requirements of offset printing and demands for better typography in general, have placed increased emphasis on clearest possible type face reproduction on linecasting machines. This article is intended to present some of the ways to secure a good type face, as well as to pass along some information which will be beneficial in that direction.

The desired product of a linecasting machine is a slug with a clean, sharp face, uniform in height and thickness, which will permit producing a good reproduction proof. To do this, cooperation of advertising agencies, copy markup men, operators, machinists and proofing department is required.

Advertising agencies should select type faces which lend themselves to obtaining reproduction proofs, trying wherever possible, to avoid faces for machine composition which have very light serifs or very heavy solids.

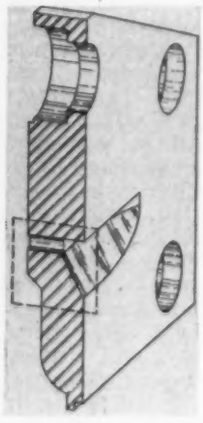


Fig. 1.—Cross section diagram of linecasting machine metal pot mouthpiece showing routed back below jet holes. The angled surface facilitates metal draining back into the crucible even though in small amount.

Machinists should keep their machines clean, especially molds, liners and mouthpieces, and check slug height and thickness as well as type face at regular intervals.

Operators should be familiar with the characteristics of each machine and pay particular attention to pot metal level, keep a careful watch of the type face and maintain an even operating speed. When starting a machine, several blank slugs should be cast to bring operating temperature to normal.

Samples of metal should be sent to your supplier; follow his suggestions for analysis. Maintain a fixed metal remelting routine and use toning metal as required; pay particular attention to proper cleaning of metal and temperatures during melting and pouring. Operators should keep proof presses clean, wash up presses when required, and use inks which are best adapted to the kind of paper used.

Machine Limitations

Linecasting machines were not originally intended for use in reproduction proof work. Machines were developed as a substitute for hand set composition on newspapers. Subsequent development of the linecasting machine mostly has been made around demands created by the newspaper composing room.

Tracing the development of typesetting machines, it is apparent most improvements have been made toward greater range of type face and sped of production. The first successful machines had a capacity of one magazine with a maximum type size of 11 pt. condensed. Later the point size was increased to 18 pt. and condensed 24 pt.

With the manufacture of larger type faces and the desire for greater range and flexibility, mixers and side magazines were added for faster production of grocery ads, etc. At present emphasis is placed on machines with capacities ranging from 5 pt. condensed to extra wide display faces and head type, using automatic quadders, saws, Teletypesetter units for wire and tape operation, etc.

While these developments were taking place, metal pots, mouthpieces, temperature controls, heating elements, letter alignment and molds have remained virtually the same. While many minor improvements have been made, basically the casting mechanism has remained the same. Most improvements have been made to secure more speed and range of type faces which a quality printing plant or typographer considers secondary to a near-perfect type face for reproduction proofs.

What is Type High?

It is doubtful that a linecasting machine slug has ever been cast which measures exactly 0.918 in. However, some plants do maintain their machines to produce slugs to close tolerances. In many plants there is at least 0.001 to 0.002 in. variation in letter height. To make test, take a 30 pica slug of 8 or 10 pt., rub it face down on a smooth steel surface and note only a small portion of the letters makes contact. This is not a fault of your machine. This is caused by the necessary manufacturing tolerance in matrix manufacture. Many plants are using "elderly" matrices which have a plus or minus tolerance of 0.001 in. This means a matrix character could be over or under 0.001 in. in relation to type high, and still be considered within range of manufacture. At present manufacturers are endeavoring to hold this tolerance to plus or minus 0.0005 in. which still allows 0.001 in. variation in letter height.

All molds tend to warp, the reason being the constant change in temperature from the molten metal to a blower cooling the mold. Much research has gone into molds and metals, but some warpage still exists, accompanied by an ever-changing slug height. Expansion and contraction of machine parts from a cold mold to a machine which has been in operation for an hour is sufficient to cause variations in slug height and thickness.

The foregoing discussion is intended to point out some of the problems with which we must work, and yet have hope of getting as close to a perfect type face as critical customers have the right to demand. This is all the more difficult with the advent of some of the photographic processes and the fact that too many plant owners do not recognize the limitations of linecasting machines. Owners should provide sufficient time for full time machinists to do proper maintenance work and the money for replacement parts. In case a full time machinist is not employed, an outside machin-

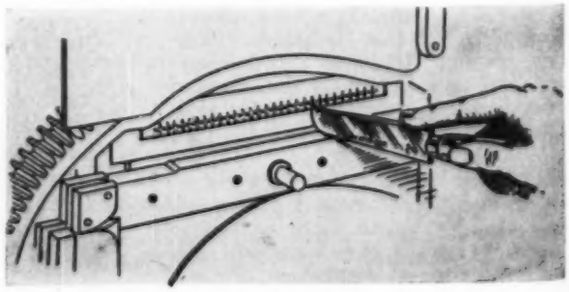


Fig. 2.—Here the vent slots in a linecasting machine pot mouthpiece are being modified with a cutting tool to help produce an excellent type face on the slug.

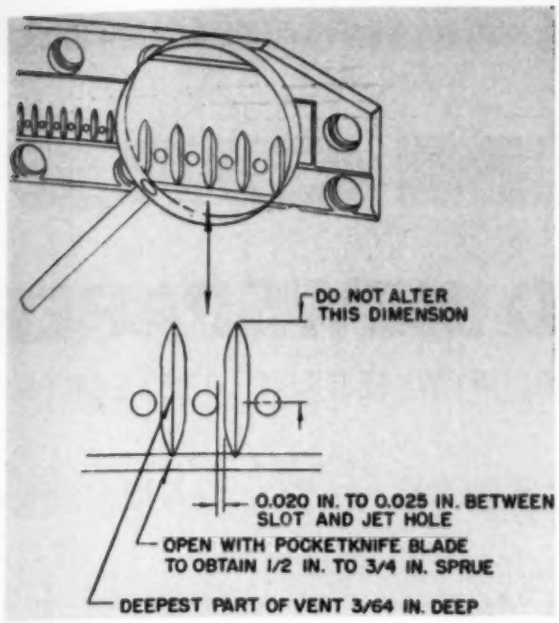

DO NOT ALTER
THIS DIMENSION
0.020 IN. TO 0.025 IN. BETWEEN
SLOT AND JET HOLE
OPEN WITH POCKETKNIFE BLADE
TO OBTAIN 1/2 IN. TO 3/4 IN. SPRUE
DEEPEST PART OF VENT 3/64 IN. DEEP

Fig. 3.—This diagram is used to illustrate modification of the pot mouthpiece vent slots in a linecomposing machine. Bottom of vent slots are open with a knife blade as explained by the author.

ist should be called in to take care of the maintenance work. Much time could be saved by proper machine maintenance rather than spend time doctoring a reproduction proof.

Better Type Metal Control

Less metal is being shipped from typographic plants for letterpress printing. In most of these plants metal remains in the shop. Thus, it is now possible to keep better control of type metal. It has been found, in many instances, that an increase in tin content results in sharper faces because of the better flowing quality of the metal.

Condition of Molds

The thickness of a mold and liners is 0.875 in. If a mold is worn or the corners have become rounded, it will be below that figure and the back knife will leave a slight overhang or feather edges on the slug. Regrinding a mold is not considered satisfactory as it means removal of steel which should remain to maintain proper mold thickness and alignment. It is always best to replace a worn or warped mold with a new one. If it is warped, no doubt the mold has served its usefulness and replacement is warranted. A straight edge is used to good advantage for checking warpage and rounding of a mold.

The silicone preparations used on mold wipers have the property of forming a heat resistant film between mold and slug. This film helps prevent metal adhesion and hard ejection, making mold polishing infrequent, thereby increasing mold life.

Of foremost importance is the fit of the plunger to the pot crucible well. In addition to good plunger action, it is the determining factor of the pressure with which the metal enters the mold cavity. If the metal boils around the plunger at its downstroke, metal is by-passing the plunger. This can be remedied by having the well honed and an oversize plunger fitted. Hones can be rented for this purpose.

It is usually considered advantageous to carry pot and mouthpiece temperatures higher on a machine for reproduction proofs than for regular operation. A high metal level in the pot requires less air to be displaced from the throat permitting metal to fill the mold cavity faster. Raise metal level to within ½ in. from the top of the crucible. Electric heating units must fit closely to the throat and mouthpiece. The mouthpiece should be removed and throat cleaned occasionally to assure free passage of metal to the mold.

A sensitive pot temperature control should maintain temperatures within 3 deg. to 8 deg. Particular attention should be given to the mouthpiece heat control. If it is the late automatic style it should be adjusted to extreme sensitivity. If your machine is equipped with a rheostat, the advantage of a constant heat factor will be present.

Get Metal to Matrices—Fast!

Mouthpiece and Lockup—On the average machine on which face trouble occurs, more progress can be made quickly by taking care of the mouthpiece. First, we must have a good mouthpiece-mold lockup. Do not be satisfied until the mold cavity is completely sealed —top, bottom and liner ends. We have found that using a thin deposit of smoke from a small rag or asbestos mouthpiece wiper saturated in kerosene and lighted not only shows the points of contact but variations in pressure as well.

After using a true stone and facing the mouthpiece it may be necessary to make final touchup with a small knife sharpening stone. This will be found handy as the handle offers good control of the stone when spotting the mouthpiece. This stone can be secured from almost any hardware store.

If the mouthpiece shows wear or rounding on the bottom, replace it with a new mouthpiece. Use of the routed back mouth-

(*Continued on Page* 83)

Foot Switches on Saws Solves Paper's Problem

Installation of foot switches on the composing room saw-trimmers at the Newark (O.) *Advocate* has been reported by J. O. Austin of that newspaper. Prior to their installation, the saw-trimmers were run continuously throughout the day which created a dangerous sit-

uation, and meant loss of power as well as wear on the saw-trimmer itself. John Spencer, business manager of the *Advocate,* turned the problem over to the mechanical department.

It came up with the foot switch idea which turns the motor on when the worker depresses a pedal with his foot and shuts it off when his foot is removed. The Square D switch is not affixed permanently to the saw. It lies loose on the floor and can easily be moved into one of several positions and for cleaning around the saw.

The switch is attached to the saw-trimmer with a shielded and grounded cable, and can be used on single or three phase motors. Eight of the *Advocate's* saws have been converted to this arrangement and their acceptance is indicated by plans to install more.

an **ANNOUN**

WOOD NEWSPAPER MA

PLAINFIELD, NEW JERSEY • EXECUTIVE & SA

To All Newspaper Publishers and

The Wood Newspaper Machinery Corporation has bought Walter Scott & Co.

The merger brings together two firms which, for almost a century each, have pioneered in the development of high-speed presses and printing equipment and have contributed notable advances in production to this greatest of all media of mass communication.

To newspaper publishers around the world we wish to make it clear that this step represents an expansion program—not the elimination of a competitor. No changes of any magnitude are contemplated in either company. There will be no reduction in the forces of either organization. Both have a backlog of business that will keep the combined organization going at top speed for the next two years.

We wish to assure Scott's customers that their investment in that firm's products will be fully protected, because we shall continue to manufacture and service all Scott products. The same high standards of service that Wood clients take for granted are guaranteed likewise to Scott's patrons.

Furthermore, publishers may look for significant developments from the combination of the two companies, for the acquisition of the Scott

NCEMENT *from*

MACHINERY CORPORATION

& SALES OFFICE: 501 FIFTH AVE., NEW YORK 17, N. Y.

nd Members of the Graphic Arts Industry...

concern was undertaken to broaden the production of both companies and it is my conviction that the teamwork of the two research staffs may be expected to enhance the tradition each company has enjoyed for decades for evolving notable advances in newspaper printing, including R O P Color and supplementary printing equipment.

The Wood Company has for a century devoted its talents so successfully to perfecting and improving the equipment of the stereotype foundry, the pressroom and the reelroom that almost every decade has seen us establish another "milestone" in newspaper publishing history in new machines of modern design and more economical in operation. I fully anticipate the establishment of more records during the coming years as a result of this amalgamation.

We shall adhere to the principles that have guided us in the past—the manufacturing of high quality products, efficient and prompt service. You may be sure that we will exert every effort to merit your continued confidence.

Wood

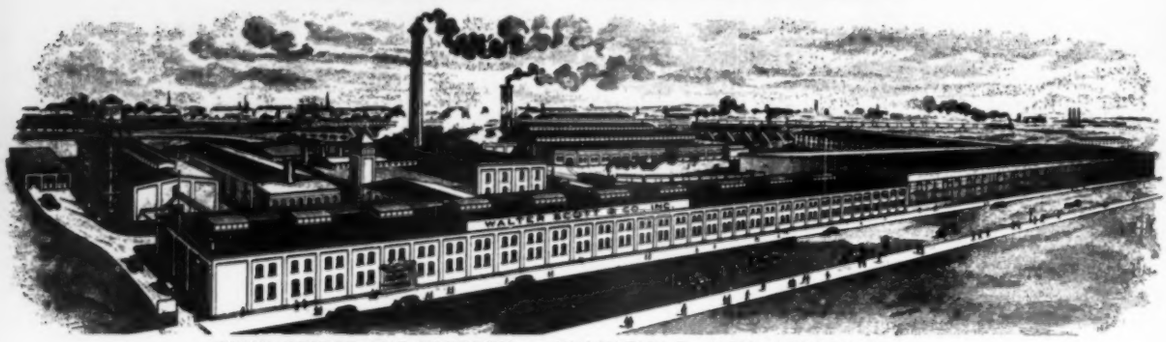
John J. Shea

PRESIDENT

WALTER SCOTT & CO., INC.

MANUFACTURERS OF

PRINTING MACHINERY



MAIN OFFICE AND FACTORY – PLAINFIELD, NEW JERSEY, U.S.A.

March 14, 1957

To All Our Customers:

This letter is to inform the newspaper printing world that the family of the late Walter Scott is relinquishing Walter Scott & Co. Inc. to the Wood Newspaper Machinery Corporation, effective immediately.

We shall not be disassociated completely from active management, however, since I shall remain in an executive capacity with the Wood Company and also shall be a member of the Board of Directors.

Our decision to sell the company was not the result of any poor economic condition affecting its operations. On the contrary, contracts in hand exceed more than a year of production at full capacity. The action was taken because of the realization that increasing administrative responsibilities were becoming too burdensome for us and that too many years would elapse before the younger descendents of the founder would achieve sufficient maturity to permit us to shift the management to them.

In making this announcement, we do so with a combination of pride and gratification: Pride, because Walter Scott & Co. during its 75-year span has enjoyed world-wide fame for the production of quality presses. Gratification, because it is understood that the Wood Company will take over our organization, refrain from instituting any radical changes, and continue to manufacture and service Scott equipment.

The Wood Company has for many years been a friendly neighbor. Both of our organizations have conducted their business with the same integrity and on the same high principles, and I believe the combination of the two will contribute greatly to new developments and processes for the newspaper printing industry.

Therefore, in behalf of our Stockholders, I wish to express our thanks and appreciation for your patronage and the confidence you have placed in our company. I trust that you will continue this patronage and confidence in me and the Scott Division of the Wood Co.

Sincerely,

David J Scott

President

Run-of-Paper **Color** *For Daily Newspapers*

General considerations, initial conception, participation by all related departments, equipment requirements and the finished product will be discussed progressively

By VERNON R. SPITALERI*
**Research Director, Knight Newspapers, Inc.*

Part VI—Composing and Stereotype

Although the composing room plays a comparatively minor role in newspaper color, what is required must be done properly or the job can be ruined. The principal factors to consider are the differences in handling full page units vs. partial page units and direct pressure hot molding vs. cold molding (direct pressure or roller).

Full page units present little difficulty for once the page is locked in the chase the base and locked chase need not be disturbed for each successive color. Register problems at this point are thus minimized.

When using three plate full color process for either editorial or advertising, since you are not concerned with black in the color areas, neither full nor partial page units pose any real problems regarding late closing for the black type form or makeovers between editions. The same flexibility can be achieved when using four plate full color by using two black cylinders of the press.

Hot and Cold Molding Combined

If three plate full color is used it is possible to process the color itself well in advance by direct pressure hot molding. By making necessary allowances for mat shrinkage in both directions the black plate carrying type, etc., can be cold molded using conventional procedures and comparatively high shrinkage. The use of comparative hot and cold mold layout sheets greatly simplifies the problem of positioning black so that when processed via shrinkage proper positioning is achieved. These layout sheets automatically compensate for the differential between vertical and horizontal shrinkage. Sample hot and cold mold layout sheets are available to those interested upon request to *Printing Equipment Engineer*.

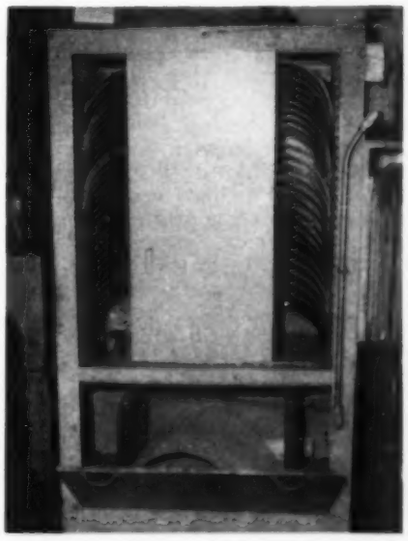


Fig. 15.—A baked stereo color mat left lying in normal atmosphere will pick up moisture and register can easily be lost. It is recommended that some form of heated cabinet be used for storing baked color mats during processing, as well as storage for mats in case it is necessary to make additional casts. The one illustrated here is in use at the Miami (Fla.) *Herald*. The two half width sliding doors permit access to either column of mats.

Chases and Base Material

Precision type high chases are recommended and it would be well to specify some chases for color use only. Center line should be scribed on all four sides. Generally, solid stereo base is preferred but if systems similar to that in use at the Miami (Fla.) *Herald* are contemplated (described in Part V, *Printing Equipment Engineer*, March 1957) solid 0.750 in. magnesium base should be used.

If color is principally molded under direct pressure, the chase and full thickness base can be eliminated if a mounting system similar to the *Herald's* is used. Accurate magnesium bases 0.150 in. thick can be used as the base as well as chase if 0.065 in. magnesium strips are welded to the 0.150 in. base to serve as bolsters. The chase-base thus made up can be suitably scribed to conform to the required dimensions.

Stereotype

Stereotyping is perhaps the greatest variable in newspaper color reproduction and rigid controls must be established to insure close register throughout the process to the finished press plates as well as accurate reproduction of detail and proper printing depths as needed.

Initial Register

The complete system used for mounting and registering process color at the Miami (Fla.) *Herald* was described in Chapter V. Conventional methods start by drilling fine holes (0.076 in. No. 48

Fig. 16.—The Sta-Hi Master Matcher is used for checking and correcting register of a set of stereotype color mats by precision comparison of actual printing images, and for applying accurate register marks on mats, whether molded in a newspaper's own plant or furnished from outside sources.

drill preferred) through corresponding register marks of all plates in a set. After properly pobase, drill into the base material sitioning the key plate on solid through the register holes.

Common nails or phonograph needles are driven into the drilled holes and cut and filed to plate thickness. These nails now serve as register pins for that particular set.

Molding

Cold roller, cold direct pressure, and baked direct pressure molding can all be used to produce useable color mats, but for maximum quality direct pressure hot molding is preferred. Shrinkage is minimized thereby aiding immeasurably in achieving close register.

Dead metal should always be left in original plates but if it has not, large open spaces should be filled with metal to bring all areas in the form up to uniform height. This is particularly important when using cold rolling procedures since better shrinkage control is afforded.

There are a great number of molding combinations that can be used successfully. Following is the molding procedure used at the *Herald:*

(Direct pressure hot molding using Tenanon to maintain all makeready possible.)

Mat.
Tenanon.
Kraft paper (1 sheet).

Gem metal (perforated) wrapped with 2 layers of stainless steel fine screening.

Gray felts (2).
Wool molletons (2).

Initial pressure of 2000 lbs./sq. in. (approx. 500 T) is held for 10-12 sec. followed by a 15 min. hold at 250 lb./sq. in. (approx. 75 T.). Temp. is 325 deg. to 350 deg. F.

A baked mat left lying in normal atmospheric conditions will pick up moisture and register can easily be lost. It is recommended that some form of heated cabinet be used for storing baked color mats during processing and after initial casting has been completed in the eventuality of additional casts being necessary. In Fig. 15 is shown the home made cabinet heater in use at the *Miami Herald.*

Mat Pre-Register

Mat register is probably the most overlooked and yet relatively most important point at which register can be lost. Although it is important to maintain accurate register all along the line, it is most logical to put maximum emphasis on pre-registering each set of mats which, if subsequently handled with reasonable care through the casting and shaving operations, should virtually insure close register in the finished plates.

Sta-Hi Corporation has developed a precision Matcher (Fig. 16) and a Trimmer (Fig. 17) which when used together make pre-registration of mats simple but accurate and foolproof.

The Sta-Hi Master Matcher is also particularly valuable when one is confronted with problems of patching mats to register such as the addition of local signatures on full page color ads and combining feature syndicate material with locally originated color.

Although makeready as practiced by commercial letterpress printers is virtually impossible on newspaper presses, it is possible to accomplish some effective makeready in stereotyping. Most makeready of this type is commonly referred to as highlighting on the back of the mat which, in effect, holds back or relieves highlight areas and soft edges. This practice aids considerably in permitting the pressmen to carry sufficient color to achieve maximum brilliance yet maintaining clean highlights. One highly successful version of this approach is the Bista Pre-Madeready Mat produced by the Lake Shore Electrotype Co.

We have developed at the *Herald* a unique makeready system wherein the makeready is incorporated with the original plates and when molded using Tenanon in addition to the regular mat a surprising degree of this original makeready is then transferred via casting to the finished press plate.

In any event, it is advisable to at least relieve all edges and highlight areas.

Casting

Although color plates are being cast successfully in all types of casting equipment from hand casting boxes to full Automatics, if possible, color should be cast in either hand casting boxes or a precision Pony Autoplate or its equivalent.

Regardless of casting method used, the first plate cast from each mat should be discarded and all subsequent casts numbered in sequence to insure that companion plates are run together. Since there are some slight differences between each subsequent cast from any one mat it is possible, for example, for the second cast blue to match poorly with the fourth cast

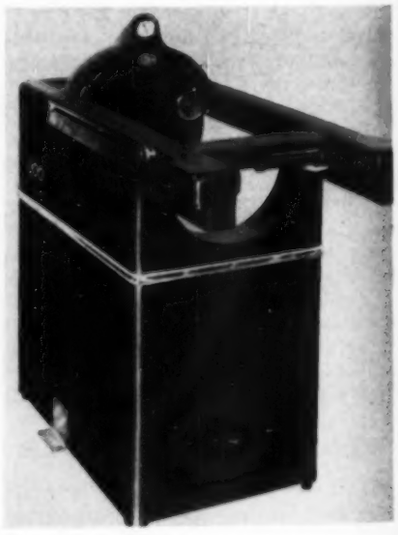


Fig. 17.—The Sta-Hi Master Trimmer is used to follow through with the precision register marks applied in the Master Matcher so that all mats in a color set can be trimmed uniformly at head, foot and ring gauge edges, assuring uniform casting and closely registered press plates.

red. If for any reason one cast of a series proves unuseable, all companion plates to that set should be destroyed.

In multiple casting, it is essential that the mat be seated accurately before each cast and care must be exercised to prevent misregister from creeping.

Flat casting of process color plates should be avoided since loss in depth and probable loss of register are inevitable.

Ad Mat Inspection

All ad color mats should be carefully inspected by qualified personnel upon receipt by the newspaper for any possible defects. The *production manager* of the *advertising agency* concerned should be notified immediately of any problems with the material so that new material can be supplied if possible. It is of little value to the agency to hear from the newspaper by way of excuse for poor reproduction that the material supplied was defective.

Stereo Plate Pre-Register

Both Wood Newspaper Machinery Corp. (Fig. 18), and Goss Printing Press Co. have available plate pre-register equipment which permits making the final shave and trim in accurate register. It should be noted, however, that if sufficient care is taken to properly preregister the mats as explained in this chapter, misregister in the cast plates should be minimized.

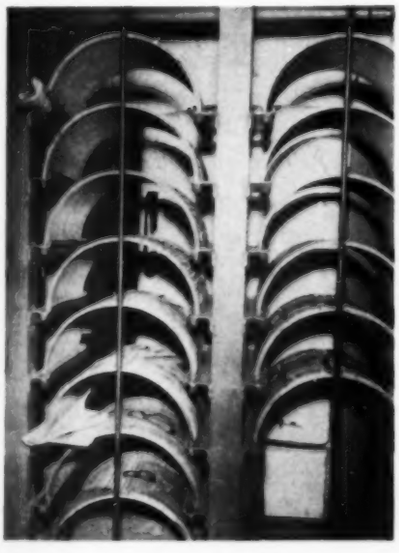


Fig. 19.—To assure that stereo color plates will not spread while being transported to the pressroom, plate racks such as shown in this illustration, have been built by the Miami (Fla.) *Herald*. Underside of each of the plate slides is protected with discarded press cutting rubbers which serve as bumpers. The rack is rolled to a service elevator for delivery to the pressroom.

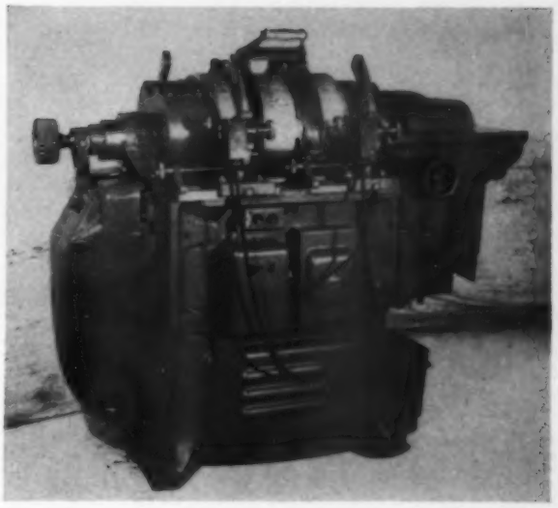


Fig. 18. — Wood Newspaper Machinery Corp.'s Tensionplate Automiller with pre-register attachment for processing ROP color stereotype plates. Its functions are the same for plates equipped with Tensionplate press lockup as is done with the color plate pre-registering machine for plates designed for ordinary lockup.

Routing

All dead metal must be routed out on a precision curved plate router. A set of single color proofs serves the stereotyper well as a ready reference while routing each of the color plates in a set.

Only fine routing bits should be used since some misregister can be caused by the tendency of coarse routing bits to crowd the metal.

Since proper routing requires considerable time, invariably when time is most critical, Sta-Hi's tandem router now being de-bugged in the field should be a valuable addition to any color stereo department.

Nickel Plating

To maintain printing values, all curved stereotype plates for process color printing should be nickeled. Nickel plating produces a hard, long-wearing surface which permits the pressroom to use sufficient impression to print smooth solids without damaging fine pinpoint highlight dots. This is particularly important in process color since the highlight dots are significantly smaller than those used in conventional black-and-white and are quite subject to distortion and wear under printing pressures if not nickeled.

Although normally short runs do not show any significant changes in color balance due to highlight dots enlarging as a result of wear, it is interesting to note that some enlargement is measureable after only 5000 to 10,000 impressions.

In many plants the stereo foundry is at least one floor above the press operating level and the finished stereo plates are normally routed to the pressroom via various types of vertical plate drops. Although most plate drop systems have incorporated in them some cushioning devices, many plates still land with sufficient force to create some spreading in the plate.

To avoid these difficulties we have built home made plate racks as illustrated in Fig. 19. The underside of each of the plate slides is protected with discarded press cutting rubbers which serve as excellent bumpers avoiding possible damage from that source. The finished nickeled stereo plates are loaded in these racks and transported to the pressroom on a service elevator convenient to both areas.

General Considerations

Although it is quite possible to produce satisfactory full color results with a minimum of equipment, far more consistent results can be expected if effective use is made of the available precision equipment specifically designed to render a high order of accuracy with a minimum of effort. Since stereotyping is inherently an inexact process, it is doubly important that all available precision means be used. It is equally important that this precision equipment be properly maintained so that the necesary close tolerances can be achieved.

Although many efforts are being directed toward the development of methods which would bypass stereotyping primarily for quality reasons, it would be folly not to bend every effort to use stereotyping techniques with the maximum effectiveness possible. Although the prospects of direct printing from original plates hold much promise, we should not lose sight of the fact that newspapers are still a long way from arriving at quality levels achieved via stereotyping in other fields such as fine screen magazine printing. It follows that intelligent application of funds and effort could well result in significant quality improvements using the basic principles of stereotyping as a point of departure.

(In Part VII will be covered the pressroom.)

Designs Hawaiian Plant for Future Expansion

New plant construction with an eye on future space and production requirements seems to be utmost in planning by many printers whose businesses have experienced considerable growth in recent years. This kind of thinking has extended halfway across the Pacific to the Territory of Hawaii where the Commercial Printing Div. of the Honolulu *Star-Bulletin* is the sole occupant of just such a building.

A total of 17,000 sq. ft. floor area is provided in the new structure shown above. This is divided between the production departments (see floor plan, opposite page) on the ground floor and a mezzanine floor on which are housed all business offices and an art department. The mezzanine floor has been designed so that it can be expanded to twice its present size when additional space is needed.

The building is situated on a 27,000 sq. ft. plot. There is 14,400 sq. ft. of space on the 80 ft. by 180 ft. ground floor, and 3000 sq. ft. of space on the mezzanine floor.

According to P. L. McIlree, general manager of the *Star-Bulletin*, the $200 thousand structure houses all business and production operations of the Commercial Printing Div. Dean D. Sellers is manager of the division. The division, which claims to be the largest commercial printing plant in Hawaii, produces all kinds of letterpress work. It operates a small offset department within the plant in which is mostly produced work for use within the *Star-Bulletin* organization. A separate lithographic division at another location handles offset work involving large sheet sizes and long runs.

Workflow within the plant, as depicted on the floor plan, follows a front to back of building route. Job orders commence in the production department, proceed through the composing room, into the pressroom, bindery, mailing and finally, shipping. There is no doubling back at any point.

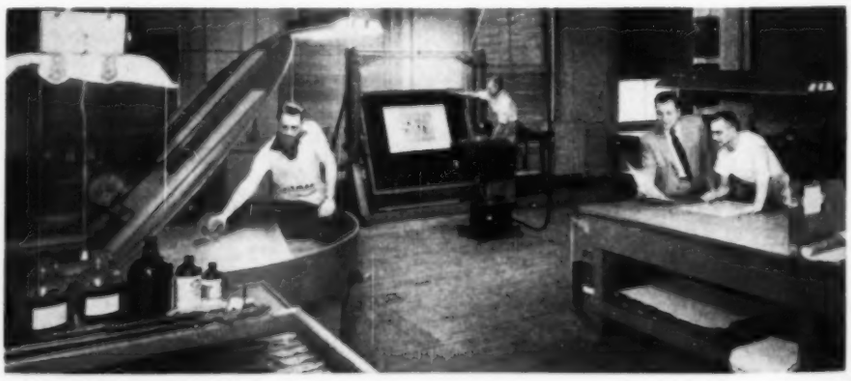
Offices of the Commercial Printing Div. are located on the mezzanine floor which extends across the front of the building. Principal materials used in its construction are steel, concrete and aluminum. The floors in the plant area are concrete and asphalt tile flooring has been used on the mezzanine.

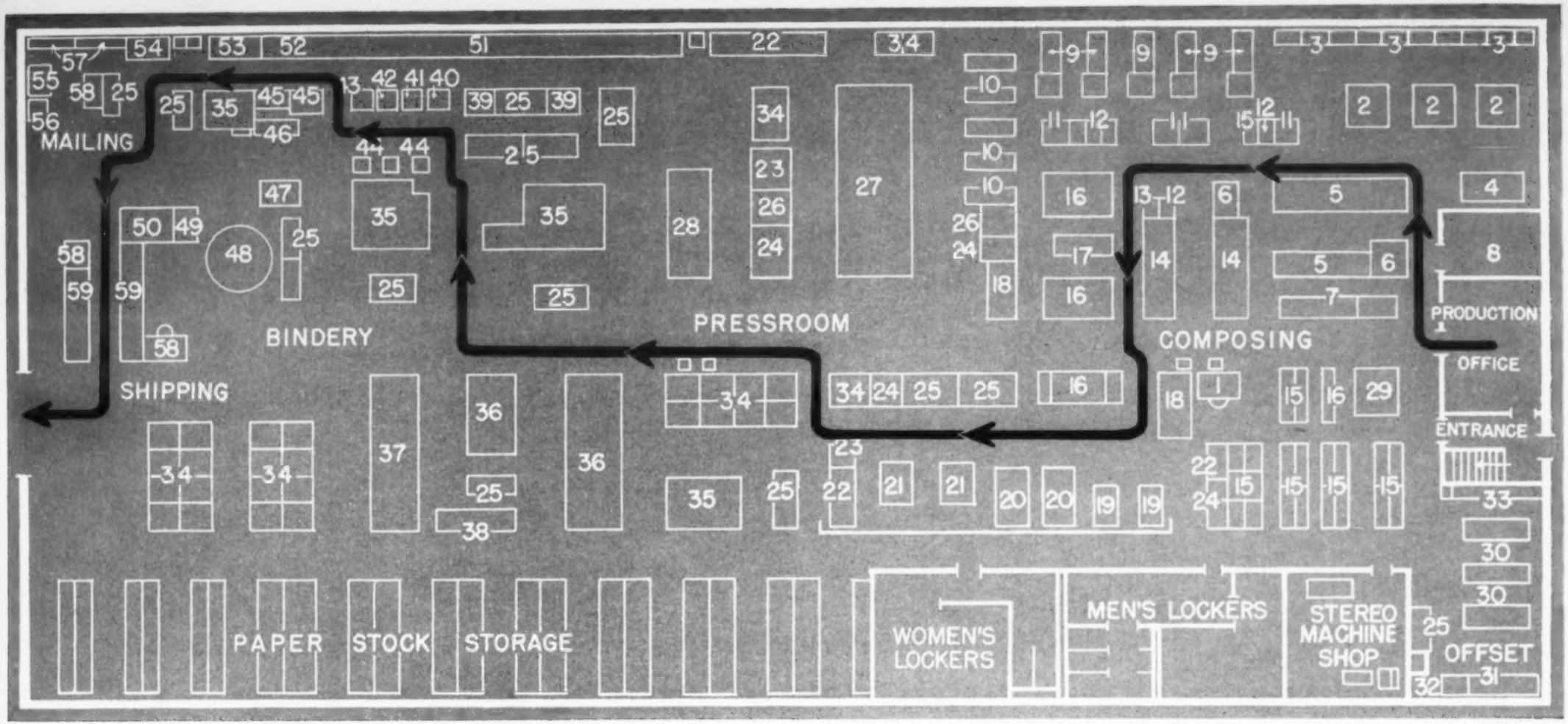
Other features of the plant include: Jalousie type windows throughout for good ventilation and light. Fluorescent fixtures have been installed. Offices have been sound proofed with a special plaster. Fire sprinkler and compressed air systems have also been installed. A lunch patio at the rear of the building and parking facilities for 32 cars are provided for employees.

On a recent visit to Hawaii by *Printing Equipment Engineer*, a question regarding air conditioning the new plant was asked *Star-Bulletin* executives. They explained that the building is cooled and kept at a comfortable working level by the trade winds which affect the climate of the Hawaiian Islands. These perpetual or constant winds occur in all open seas on both sides of the equator and to the distance of about 30 deg. north and south of the equator.

Electro Firm Installs Offset Platemaking

American Electrotype Co., 34-year-old Cleveland firm, has established a lithographic platemaking division and devoted 4000 sq. ft. of its plant to the new operation (part of which is shown below). According to Frank J. Flanagan, American's president, the company's entry into the offset platemaking field follows the conversion of many letterpress printers to combination letterpress-offset plants. It will enable American, said Flanagan, to service its customers for all platemaking needs. American's Litho Division employs three people and is equipped for producing a variety of plates. The company claims one of the largest vacuum printing frames, a 60 in. by 80 in. Brown model. Other equipment includes a 32 in. ATF process camera, Craftsmen lineup table, and Douthitt plate whirler, stripping and developing tables.





Commercial Printing Div., Honolulu (Hawaii) *Star-Bulletin*

Equipment Arrangement and Workflow Route

Composing Room

1—Foreman's Desk
2—Linotype Machines
3—Magazine Racks
4—Elrod
5—Linotype Dumps and Galley Racks
6—Proof Presses
7—Reproduction Proof Press
8—Proofreaders
9—Work Tops
10—Type Cabinets
11—Storage Cabinets
12—Saw-trimmers
13—Miterer
14—Makeup and Galley Racks
15—Galley Racks and Cut Storage
16—Imposing Tables
17—Furniture Rack
18—Chase Rack

Pressroom

19—Platen Presses
20—Kluge Presses
21—Miehle Vertical Presses
22—Makeready Tables
23—Light Tables
24—Ink Cabinets
25—Work Tables
26—Roller Cabinet
27—Cylinder Press
28—Miehle No. 29 Press
29—Lineup Table

Offset

30—Multilith Presses
31—Platemaking Table
32—Sink
33—Plate Storage

Bindery

34—Skid Storage
35—Paper Cutters
36—Cleveland Folders
37—Christensen Stitcher
38—Baler
39—Paper Drills
40—Round Cornering Machine
41—Paper Punch
42—Perforator
43—Round Backer
44—Stitchers
45—Book Presses
46—Plastic Binding Equipment
47—Smythe Sewing Machine
48—Gathering Table
49—Jogger
50—Rosback Perforator
51—Work Bench
52—Gold Stamping Equipment
53—Patent Back Sewing Equipment
54—Stripper

Mailing

55—Addressograph
56—Stencil Cutter
57—Mailing Plate Cabinets
58—Desks
59—Shipping and Wrapping Tables

Flexographic Printing

By MR. FLEXOGRAPHY

IX—Plate Handling

In this rapidly improving printing process, we cannot consider last week's procedure as the final word. There may be a new method found only yesterday. This columnist, therefore, often carries a specific problem to an expert individual in the industry, rather than attempting to answer all questions alone. Before replying to the query, "What attention and care should be given to rubber printing plates?", it was decided that consultation with Waldo Bass of the West Essex Printing Plate Co., Caldwell, N.J., would be of considerable value as that company's workmanship ranks high in that industry.

EDITOR'S NOTE

This is the ninth in a series of articles by a printing consultant to flexographic printers. Your own printing problems will be answered by writing to Mr. Flexography, in care of Editor, *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13.

There are two methods of mounting rubber plates to the plate cylinder: (1) Applying the stickyback to the cylinder first and then carefully mounting this plate on the stickyback; (2) Applying the plate to the stickyback *before* mounting the plate and stickyback together as one piece to the cylinder. Method No. 1 is considered superior and, therefore, is recommended over method No. 2 for the reason that there is less distortion and stretch of the rubber plate itself when it is applied to stickyback that is already mounted on the cylinder. Since this stretch is less than in method No. 2, it is imperative that you advise your plate manufacturer which method is used in your plant or insufficient allowance for plate stretch will be given. It follows obviously there will be less chance of color registration problems where there is less plate stretch.

Positioning the Plate

After mounting the stickyback in the desired position on the cylinder, clean the back of the rubber plate with a rag dipped in naphtha, allow to dry properly. Using the selected center and scribe marks on the cylinder as a guide, place the rubber plate on the cylinder so that the position marks on both plate and cylinder coincide with each other. Press the plate to the stickyback firmly but gently, from the center of the plate to each edge. Do not knead the plate—do not stretch the plate!

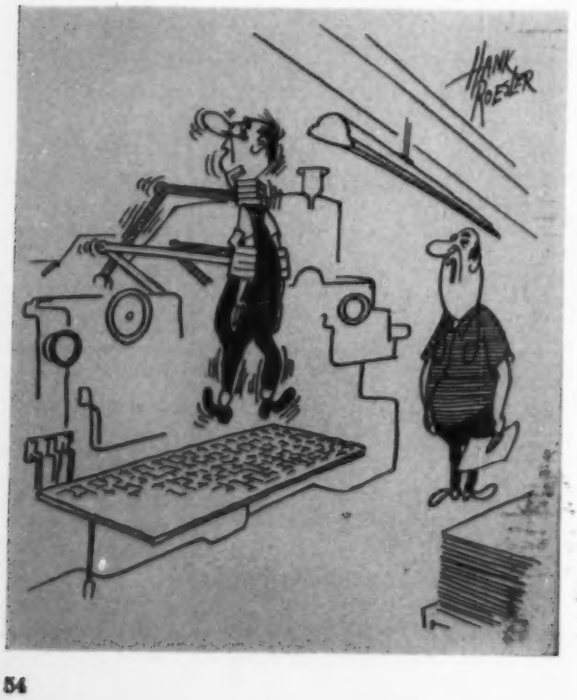
Where there is more than one row of plates across the cylinder, stagger each row around the cylinder so that the plates in row No. 1 will be positioned between the plates in row No. 2, etc., when viewed from the end of the cylinder. In this way some portion of the web will always be in contact with one row or the other and better print quality will result. If each row is lined up with its neighbor across the cylinder and not staggered, the leading edge of the plate will tend to show more wear, particularly if heavy impression between printing plates and impression cylinder is used on a coarse printing stock.

Advisable To Pull Proof

After mounting, it is advisable to pull a proof. There is mechanical equipment available so that this may be done outside the press. Correct for *low* plates with makeready—not by heavier impression.

Having been changed from a flat position to a curved position in the process of mounting, rubber plates will have a tendency to lift or pull up. This may be offset by sealing the edges of each plate with a strong paper adhesive

(*Continued on Page* 80)



"Now I suppose you're going to gripe about those grippers!"

Readies Program For Philadelphia R&EC Meeting

The Seventh Annual Meeting of the Research and Engineering Council of the Graphic Arts Industry, Inc., will be held at the Benjamin Franklin Hotel, Philadelphia. May 15-17. The Council's first vice president, Samuel F. Chernoble, president, The Comet Press, Inc., New York, N. Y., will serve as general chairman of the meeting at Philadelphia.

Possibly the highlight of the meeting's program will be a presentation by a panel of experts on color printing problems in scanning and masking operations in photoengraving and lithography and of the moire patterns. Other discussion topics will include: Efficient handling of materials; competition for multicolor printing; problems encountered in "stepping-up" to four-color presswork; standards for color appraisal, and the present needs of the Graphic Arts industry. Also, it is expected that consultants on ink and paper will be on hand to advise on paper-ink problems.

Arrangements have been made for registrants to visit Philadelphia area Graphic Arts plants. Included will be: Curtis Publishing Co.'s Sharon Hill plant, where the *Saturday Evening Post* is printed; the ANPA Research Institute Laboratory; Imperial Type Metal Company; Triangle Publications, Inc., printers of *Seventeen* magazine; the Philadelphia *Evening Bulletin*, which recently moved into a new plant; and Typographic Service, Inc., which produces photocomposition in its plant.

Further information may be obtained from: Robert E. Rossell, managing director, Research and Engineering Council, 5728 Connecticut Ave., N.W., Washington 15, D.C.

How to Estimate Ink Consumption

(With a Hope, a Wing and a Prayer!)

(Reprinted from *Morrison Inklings*, published by Morrison Printing Ink Co., Cleveland.)

Actually, there is no set rule that will predict with 100% accuracy the amount of ink required for any job. Ink estimators build up their "estimating ability" by years of experience and still the best of them make mistakes now and then.

However, the rule "100,000 sq. in. of solid printed area per pound of ink" has become the base of operations for nearly all ink estimators. Bear in mind, though, that this figure is a composite of all types of printing under normal conditions. Since no two jobs are alike, the ink estimator uses this rule of thumb only as a guide. He carefully considers and weighs the following factors before making an estimate of his requirements for the job at hand.

Stock: Absorbent stocks require more ink than hard finished stocks. Highly absorbent stocks are corrugated liners, bonds, newsprints and fabrics. On the other end of the scale are the enamel and dull coated stocks. Vinyl films, glassine papers, plastics, and tin also require minimum amounts of ink.

Method of Printing: Due to the nature of the printing process, the offset lithographer gets better ink mileage than the letterpress printer. The amount of ink required for letterpress printing is usually divided by 2 to 2½ for offset printing. In letterpress printing the type of plate also influences the ink requirements, rubber plates requiring slightly less ink than metal plates.

Type of Coverage: The greater the percentage of the printed area covered by solids and halftones as compared with that covered by type, the more ink will be required for a job. Solids, of course, require more ink than halftones, and halftones, more ink than type. On multi-color work the second, third, and fourth colors down require less ink per unit coverage than the first color printed.

Color of Ink: Transparent colors require less ink than opaque colors because, in general, transparent inks are lighter in gravity than opaque inks. For example, you can get better mileage out of a transparent lake color like primrose yellow than you can out of chrome yellow. Most blacks, yellows (except the chrome yellow), reds, blues and purples require less ink than greens, browns, and oranges. White is extremely heavy in specific gravity and requires a great deal of ink when it is used.

Finish of Printed Surface: Estimate less ink for a job that requires gloss ink than one that requires flat ink. In using gloss inks you concentrate the color on the surface of the sheet, whereas flat inks have greater penetration into the surface of the stock. This factor can vary the amount of ink consumption on a printing job as much as 30% to 40%.

B.S. in Printing Management Goes to First Female

Perhaps the distinction of being the first female to receive a university degree from a school of printing management will go to a young Chicago girl now studying at Carnegie Institute of Technology.

The girl is Elaine Harris, a former assistant production editor of the University of Chicago Press and a graduate of the University of Chicago. She entered the Pittsburgh school last September and will be awarded a Bachelor of Science in Printing Management in June 1958 after completing a two year management option course.

11 Pica Columns Urged by ANPA

The American Newspaper Publishers Assoc. Board of Directors, has recommended the adoption of a standard column width of 11 picas. These recommendations grew out of a study of newspaper column widths which was started in June, 1956, by a subcommittee of the ANPA board.

The subcommittee discussed the problem with advertising agency executives and newspaper advertising and production executives. The subcommittee reported that wide variation in newspaper column width has created a serious problem for advertising agencies in supplying engravings and duplicate printing material and that advertisers and agencies desire uniform quality reproduction in all newspapers on advertising schedules.

ANPA has recommended that:

(1) Newspapers adopt as quickly as possible a new standard column width of 11 picas, with 3 pt. column rules.

(2) Advertising agencies prepare engravings and duplicate printing materials on a sizing scale based on the 11 pica column and 3 pt. column rules, immediately where appropriate and as soon as practical in all cases after consideration of the list of newspapers in which the advertising is to run.

(3) Newspapers which adopt the 11 pica column width select a mat shrinkage which is consistent with highest quality reproduction.

(4) Wire services transmitting Teletypesetter tape give immediate consideration to such steps as may be necessary to permit reproduction of wire service tape on 11 pica column width, with due consideration to legibility.

The ANPA reported 204 newspapers with more than 26,000,000 daily circulation, 45.6 per cent of total U. S. daily circulation, already have adopted column width less than the previously used standard of 11 picas, 6 pts.

LETTERPRESS PRINTING

STOCK \ INK	BLACK	WHITE	TRANS YELLOW	OPAQUE YELLOW	RED
COATED	110	55	110	80	100
MACHINE FINISHED	90	45	95	70	90
CARTON BOARD	85	40	85	65	80
KRAFT LINER	75	35	80	60	70
NEWSPRINT	60	xx	65	55	65

OFFSET PRINTING

STOCK \ INK	Black	Gloss Blue	Flat Blue	Green	Brown	Red
COATED	250	250	225	195	190	220
OFFSET	200	210	185	180	185	200
TIN	290	300	275	210	205	285

All figures in the table represent number of 1000 sq. in. of solid printed area per pound of ink.

Tables for estimating the amount of ink consumption in both letterpress and offset printing.

News Copy Record Aids Production

A production aid designed for composing room control of news copy on a daily newspaper has been developed by Rock O. Wales, mechanical superintendent, Lansing (Mich.) *State Journal*. Consisting simply of a printed form called the News Copy Record, the system, according to Wales, is responsible for eliminating controversy at the *State Journal* as to whether the editorial department or composing room is to blame when the paper is late.

The record sheet (see illustration) provides visual control of the amount of copy received in the composing room for a particular edition. It contains information as to the number of pages in the edition, the kind of copy (telegraph, local, state, sports, etc.), approximate length and number of stories, deadlines, and whether copy is received beyond specified deadline. One side of the sheet is for morning operation which commences at 7:30 a. m. and concludes at 11:15 a.m. The other side is for afternoon operation which runs from 12 noon to 4 p. m.

Superintendent Wales relates that since the system went into effect several years ago the composing room has never lost time because of lack of copy. He believes the newspaper production executive cannot expect production from the composing room if he cannot control the flow of copy to operators. Such a record, adds Wales, also provides the publisher with "cold figures as to just what happens—not every one blaming the other, and generally ending up in blaming the workers for not enough production."

Cleveland's Electrotype Workshop—Nearly 150 were in attendance at Cleveland's first Electrotype Workshop held on March 2. Sponsored by the Craftsmen's Club, the program featured a talk by J. Homer Winkler, Battelle Institute, Columbus, O., a tour of four Cleveland electrotyping plants and the R&E Council's letterpress plate exhibit. Principals included, left to right, seated: Dennis F. Hoynes, Central Electrotype Co.; Ralph Schwarz, Ace Electrotype Co.; George Wise, Intl. Craftsmen president; Winkler; Frank J. Flanagan, American Electrotype Co., and chairman of the workshop. Standing: Joe Black, American Electrotype Co.; Floyd C. Larson, Intl. Assoc. of Electrotypers & Stereotypers; Glenn D. Heck, Art Electrotype Co.; Lee Kornel, Cleveland Club president. All are Clevelanders with the exception of Winkler.

System Uses Letter Code

News copy received in the composing room is listed on the record sheet by the copy desk operator. A letter key is used to denote the length of the copy. For example, the letter X denotes brief items or cut lines; letter S for stories under 6 in.; M for stories around 9 in. long; L for stories over 14 in.; and W denotes stories for the next day's paper. Stories received after the deadline for the different sections (deadlines are listed at top of columns) are circled denoting that they are late. A figure (1, 2, 3, etc.) just preceding the letter denotes the number of stories received. For example, 2X3S1M under inside local news would mean two brief items, three short and one medium length stories were received at the particular time where the listing appears. The large size of the record sheet (12½ in. by 11 in.), printed in large size bold type, helps to show at a glance how much copy has been received.

As soon as the daily paper is out, the Sunday system goes into effect. It is on the same order and is spread out over seven days. The *State Journal*, a seven-day newspaper, prints over 324 pages a week. Wales reports that a number of production executives have studied this system for possible use on their own newspapers. The system devised by Wales is, of course, designed primarily for operations at the *State Journal*. Other newspapers wishing to adopt the idea may have to alter the printed form or procedure to conform with their particular production requirements.

Control in the composing room over news copy received from the editorial department is maintained at the Lansing (Mich.) *State Journal* on the record sheet illustrated here. Designed by Rock O. Wales, mechanical superintendent, the printed form provides means for recording the time stories are received and whether or not they are received beyond deadlines. Such a record helps to eliminate controversy as to which of the two departments is at fault when the paper is late. A letter key (explained in story) is used to indicate length of copy which is aimed at controlling flow of work to the machines. The number preceding the letter key denotes the number of stories received at the particular time noted.

NEWS COPY RECORD

MORNINGS — 7:30 11:15

Date Tuesday, July 10, 1956 Pages 30

	12:30 pm Telegraph Inside	12:30 pm Telegraph Page One	12:30 pm Inside Local	12:30 pm Local Page One	10:30 am State	8:30 am Sport	11 am Society	12:30 pm Market	3 pm Theater	9:30 am Editorial	TOTAL	
7:30					1M7S1X							7:30
40												40
50	2S	5S				3S						50
8:00						1L1S						8:00
10						1M3X						10
20												20
30	1M				3S1X	1L1M						30
40	1L3S	1S	1S		1S	2S						40
50	4S	1S	2X3S1M		6S2X1M	1S9M						50
9:00	1M	1L	2M1L1X		1L1S	1L						9:00
10		4S	1L1M1S1X		2S	3S1M		1S	1S	1L		10
20	1X		1N1X		5S1M	1S		1M				20
30	1M	1M	1X1S1M		4S	1M						30
40	1L		3M1S1X		1L1X	(1M1S1X)	1M3X					40
50			1L1S		3S							50
10:00	1L1S	1M	2X1M	2L1X	1S		1S1M			(3S)		10:00
10	1X		1L				1L1M	1M				10
20			1M2S		1S		1S					20
25										(1M)		25
30												30
35			1L1X	1M	(2S)		1M		1M			35
40												40
45												45
50		1S	5S 7S					1S				50
55												55
11:00								1M				11:00
5												5
10	1M	1M	2X4S					1X1M1S				10
	Telegraph Inside	Telegraph Page One	Inside Local	Local Page One	State	Sport	Society	Market	Theater	Editorial	TOTAL	

Stories Keyed as Follows: S—Jots, Six Lines, Briefs, Cut Lines. M—Short Stories Under 9 Inches. L—Stories That Come Up After Deadline. L—Long Stories Over 14 Inches. M—Medium Stories Around 9 Inches Long. W—Stories for the Next Day's Publication

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LEADERSHIP THROUGH RESEARCH

For More Information Circle 92 on Reader Service Card

Litho Printing on Aluminum Foil

By DONALD PINGREE* and P. T. POPE†

**Plant Superintendent, Kaiser Graphic Arts, Oakland, Calif; †Pope is associated with Pope and Gray, Inc., Clifton, N. J. Abstracted from talks given at the conference of the Research and Engineering Council, Edgewater Beach Hotel, Chicago, Ill., May 9-11, 1956.*

Lithographers throughout the United States are turning out production runs on aluminum foil where only a few years ago it was thought to be completely out of the question, Pingree began. Foil jobs are being lithographed on standard equipment and with a minimum of special handling. Two major factors have contributed to progress in this field:

1. Advancement in the production of aluminum foil itself. Today's high rolling speeds create a controlled frictional heat which also assists in producing a more uniform, brighter and cleaner sheet of foil. With the advent of new oils which vaporize completely in the annealing ovens leaving a clean metal for the bonding of surface coatings, one of the greatest problems confronting the printer pioneering lithography on foil was conquered.

2. Improvement in laminating foil to paper stock and surface treating it for printing. The development of vinyl and nitrocellulose coatings has eliminated the problem of ink receptivity on the foil surface. A good heavy surface coating will give additional resistance to abrasion, as well as an opportunity for the inks to be absorbed at least enough to anchor them securely to the surface, causing a good bond and helping to prevent skating and offsetting.

Many problems may be encountered in lithographing on foil which have a direct bearing on the adhesive used to secure the aluminum foil to the paper stock. The cracking and tearing problems encountered with some foil laminated paper is usually caused by the adhesive failing, not by foil failure. Latex, casein, or a combination of casein and latex materials have proved satisfactory and give good flexibility, as well as being waterproof.

Until comparatively recently, the standard width of aluminum foil was 26 in. But, Kaiser Aluminum now rolls widths up to 54 in. The laminating equipment has also been increased in size to accommodate these new widths. Laminating equipment is roll fed, and Vinyl or nitrocellulose coatings may be applied either clear or in an unlimited range of colors by a gravure roller and a standard rotary sheeter is used on the delivery end.

Controlling Curl

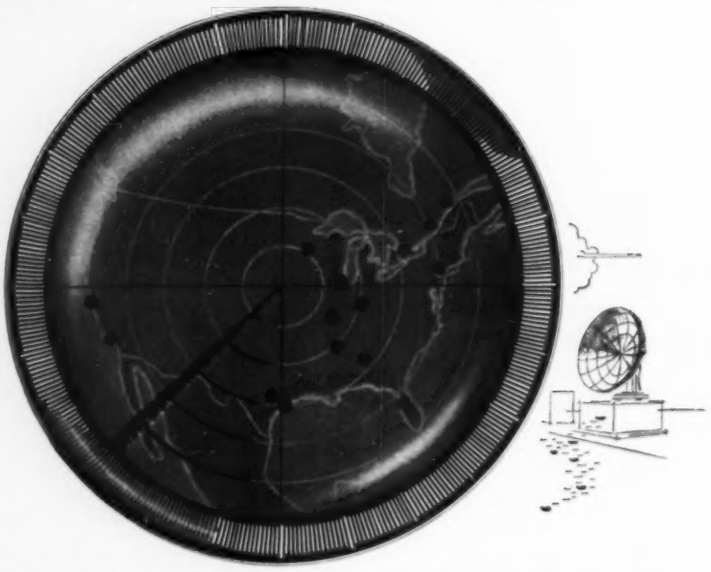
It is an advantage, Pingree continued, to have the foil laminated in such a manner that approx. ¼-in. of free paper stock is left on the leading or gripper edge of the sheet. This makes the sheet less susceptible to curling, bending or nicking. Curl may be a problem when extremely light weight paper stock is used, particularly on presses with cylinders of small diameter. There is also danger of creating a curl problem when haphazard handling of stock occurs. Extreme care should be taken to make sure that the sheets remain flat.

Printing on foil today is about at the same stage as lithographing on coated sheets was fifteen or so years ago, Pingree concluded.

Lithographers interested in long runs of foil on multi-color presses look for the answers to certain

(*Continued on Page* 81)

BLANKET AND DRAWSHEET SERVICE



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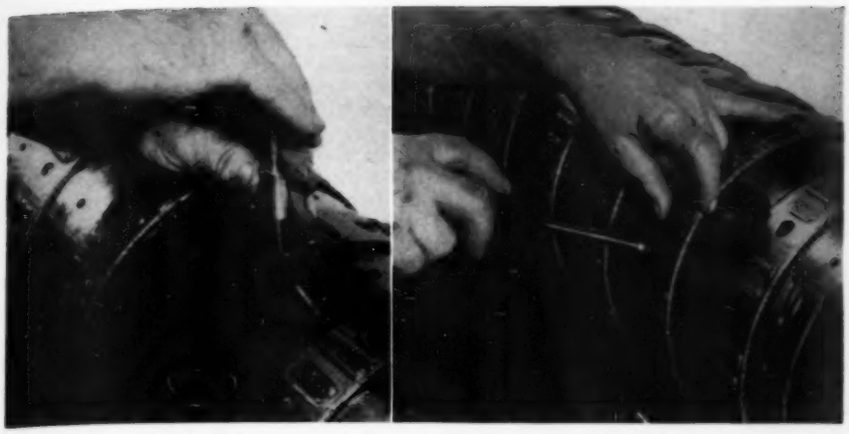
For More Information Circle 137 on Reader Service Card

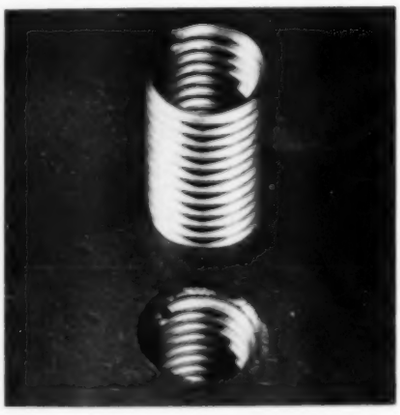


At left, a Heli-Coil stainless steel wire thread insert in installed in a rotary press plate cylinder using a special inserting tool. At right, a printing plate is attached to the cylinder with a screw which is driven through a pre-cut hole in the plate and into the Heli-Coil insert. It is reported that the inserts provide strong permanent threads for securing plates to cylinder. Inserts may be replaced quickly should the threads become worn or damaged.

Reduces Down Time on Rotary Presses

A change in the procedure of fastening curved printing plates to press cylinders at Nashua Corporation, Nashua, N. H., is claimed to have reduced down time on the firm's rotary presses. At Nashua, plates are secured to the cylinder by means of screws which are positioned in the non-printing areas or in flanges at the edges. A special cylinder to accommodate these screws has been in use.

The former press down time resulted from repairs to worn or damaged threads on the plate cylinders where the screw was inserted. Although the plate cylinders on the Meisel rotary oil ink presses at Nashua are of carbon steel, the threads became worn, damaged or stripped because of the frequency of plate changes required.



Greatly enlarged view of an individual Heli-Coil insert on a rotary press plate cylinder showing the drilled hole in which it will be installed.

Procedure to eliminate the worn screw thread problem is to install a stainless steel wire coil insert in each of the 648 threaded holes when the cylinder is made. There are three cylinders per press or a total of 1944 inserts per press. The inserts are claimed to resist wear longer than the equivalent unprotected threads. However, their principal advantage lies in the ease and speed with which an insert can be extracted and a new one screwed in. When an insert in a hole finally becomes damaged or worn, it is backed out of the hole with an extracting tool and a new insert is applied. The operation is done in a few minutes.

The positioning holes in the cylinder were designed to accommodate a wide range of plate sizes and many runs are made with unoccupied holes exposed to ink, dirt and dust. The resulting coating on the threads is difficult to remove. In such cases, the encrusted insert can be extracted and replaced with a new one.

Drilled holes in the plate cylinder are located within a tolerance of ± 0.001 in. in both directions for color register. The threads are then tapped with a special Heli-Coil tap to receive the male threads of the insert. The inserts are installed with a Heli-Coil tool. The resulting female threads receive 12-24 by ½ in. flathead socket cap screws. For further details, please circle No. 280 on Reader Service Card.

Printing Process Perfume

Perfume Printing Process Compound, for printers and lithographers has been announced by Frank Orlandi. The compound, used in the ink fountain, is said to be colorless and will not offset. Range of odors include flowers, woods, fruits, foods, etc. For further information, please circle No. 273 on the Reader Service Card.

Assistance in Plant Planning

In the March issue of *Printing Equipment Engineer* appeared an article on printing plant planning. In the article were listed the professional architects and engineers who may be consulted in building and plant planning. Also listed were a number of companies furnishing competent assistance in plant equipment layout as well as manufacturers of equipment who advise regarding treatment of their equipment when it is to be installed in a plant.

A number of replies to our original letter of inquiry were received too late for inclusion in the article. These are printed below. If you wish, these may be filed with the original article for future reference.

The Cottrell Company, Sub. of Harris-Seybold Company, Westerly, R. I., engineering and service departments, maintain close contact with the customer when a new press is being installed or an old one moved. Company furnishes a floor plan and line diagram of the equipment and advises and assists the customer in planning his installation, including proper location in his building, adequate foundation for the press, strengthening of the building if necessary, arrangements of facilities, such as water, air, drying equipment, etc. During installation of the press, company furnishes a man to supervise the work and put the press into operation. Also available is an experienced printer for consultation and training in the event any special printing problem arises.

R. Hoe & Co., Inc., 910 E. 138th St., New York 54, N. Y., maintains an advisory and engineering service to assist publishers and printers with their problems pertaining to pressroom and platemaking equipment.

Miehle Printing Press & Mfg. Co., Div. of Miehle-Goss-Dexter, Inc., 2011 Hastings St., Chicago 8, Ill., for some years has employed specialists—men who are available to the Graphic Arts industry as consultants on printing and binding problems. These men are not salesmen. They function in an advisory capacity only—aiding the company's salesmen or customers. These men are: Al Kuehn, specialist in offset-lith machines and processes; Ed Luscombe, specialist in carton printing, cutting and creasing; James Hayes, specialist in book manufacturing in all phases, and Glenn Backmann, specialist in bindery equipment and processes.

The Dexter Folder Co., Div. of Miehle-Goss-Dexter, Inc., has available template and grid layout kits for use in planning bindery operations.

The DeFlorez Company, an associate of Dexter, has several engineers available, on a fee basis, for plant planning or special machine design.

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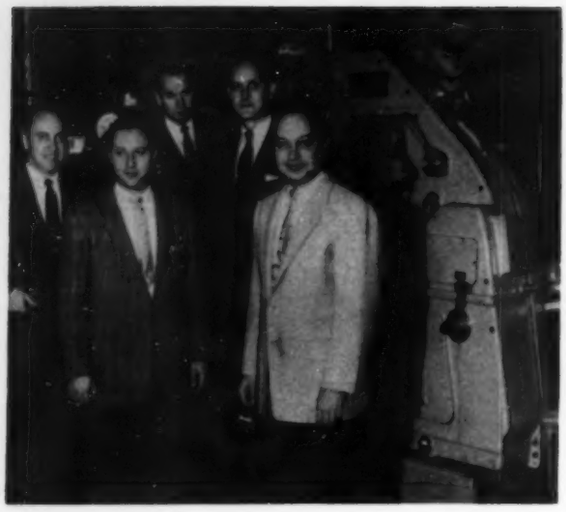
AUGUST 4-7, 1957



LaSalle Installs Miehle, Orders Another—Installation of the first Miehle 38 Two Color Offset Press in New York was recently completed at the plant of LaSalle Litho Corp. After installation a second Miehle 38 Two Color was ordered by LaSalle. Pictured left to right are: Carlton Mellick, vice president of LaSalle; William J. Stevens, Eastern District offset manager of Miehle; Norm Steed, Miehle New York manager; and Arthur Sullivan, also vice president of LaSalle.

Ink Dot Scum—What To Do?

(Published through courtesy of Lithographic Technical Foundation, part of Research Report No. 37.)

A number of LTF members have written to the laboratory about their troubles with bands of tiny ink specks that form across aluminum plates. The bands sometimes show up only in halftones.

These peppery ink receptive specks are called ink dot scum. The exact cause and cure continues to be a mystery despite research for many years.

Aluminum is a water receptive metal. It doesn't require a heavy layer of gum on it to keep it desensitized. In fact, tests at the lab have shown that ink dot scum is speeded up when heavy gum films are put on the plates.

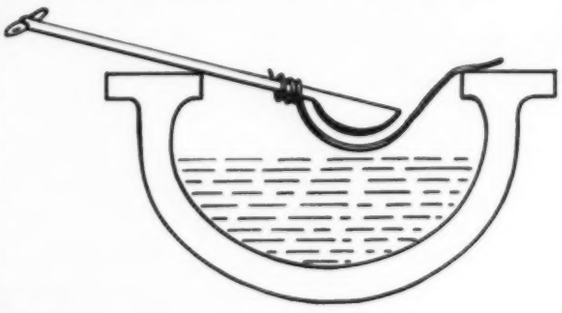
One of LTF's present theories is that the gum film picks up or holds acid from the fountain solution in contact with the plate. When the press is stopped and the gum film dries slowly, the acid has time to concentrate and penetrate the weaker or thinner areas of the aluminum oxide film. This causes tiny corrosion pits which pick up ink and print.

LTF has found that when the press is stopped, the longer it takes for an aluminum plate to dry, the better the chance for ink dot scum.

The areas that dry last on a wet plate standing on the press are those that are close to other rollers like the forms, the dampeners, or the blanket. When this occurs, and when a fountain solution with a pH of 3.8 to 4.0 is being used, bands of ink dot scum form across the plate in only two or three minutes. The bands match the roller spacing exactly. It is thought that the trouble occurs so often in halftones because the spaces between the dots trap the fountain solution and are slower to dry.

According to LTF, the way to avoid this trouble on the press is easy. When sheets stop feeding, the form rollers will automatically trip off the plate. Lift the dampeners as usual but before you stop the press, let the plate revolve for a few minutes so that it becomes thoroughly dry. Once the plate has been dried quickly you can stop the press and the trouble will not be as apt to occur.

ANOTHER WAY TO DEMOUNT PLATES



In the January issue, *Printing Equipment Engineer* published a request for means to demount adhesive printing plates economically. The idea of demounting plates is to make them acceptable as scrap metal to the junk dealer.

Frank G. Hale, 1107 S. Marguerita St., Alhambra, Calif., submits another method for demounting cuts. He reports: "If the plant uses a large metal melting pot and a good size ladle, this method will be useful. As shown in the illustration, fasten length of wire or steel strapping by means of an eye shaped to fit the ladle handle next to the bowl. Then suspend the ladle *above* the molten metal with the handle resting on one edge of the pot. Place several small cuts in the ladle and allow the ladle to heat for 10 min. With gloves on hands, use tongs to lift the cuts from the ladle and insert a chisel between plate and mounting base. A variation would be that a number of cuts can be placed on top of an electric or gas hot plate over which has been placed a steel sheet. As soon as the adhesive has been softened by the heat, the plates may be pried from the wood base with a chisel or screwdriver."

H. L. (Red) Higgins

Promotion to the newly-created post of production manager of Brush-Moore Newspapers, Inc., has come to H. L. (Red) Higgins, formerly composing room foreman of the Canton (O.) *Repository*. Higgins, a 32-year veteran in the newspaper printing field, will work in close cooperation on production matters with all eight Brush-Moore newspapers. The Brush-Moore organization owns and operates newspapers in the following Ohio cities: Canton, East Liverpool, Ironton, Marion, Portsmouth, Salem, Salisbury and Steubenville.

Higgins is well known for his participation in ANPA and Great Lakes newspaper mechanical conferences. He has been with the *Repository* since 1955.

For 13 years prior to joining the Canton paper, Higgins was in charge of the composing room of the Detroit *News*. Previous to his work in Detroit, the new production manager served newspapers in Fort Worth, Tex., Indianapolis, Ind., and Buffalo, N. Y.

Dave Hart, named assistant composing room foreman at the *Repository* last year, will replace Higgins as *Repository* foreman.

CHICAGO TRIBUNE

"The Tribune has found that Hurletron Controls have enabled us to obtain considerably more accurate register of our rotogravure color pages than we got with manually controlled compensators. This has helped us maintain our leadership in quality reproduction of color rotogravure. It has also materially reduced our waste and spoilage."

LeRoy Anderson,
Superintendent of
the Chicago Tribune's
rotogravure pressroom.

INDIANAPOLIS STAR AND NEWS

"Our Hurletrons enable us to maintain register at varying speeds. This was impossible under manual operation. They permit much closer register on acceleration and deceleration. Hurletrons have also produced less spoilage and waste newsprint which is very important in these days of increasing costs. And our advertisers are better satisfied."

Golden L. Faris (left),
Production Manager
and Curtis White,
Pressroom Superintendent
Indianapolis Star and News

WASHINGTON POST AND TIMES-HERALD

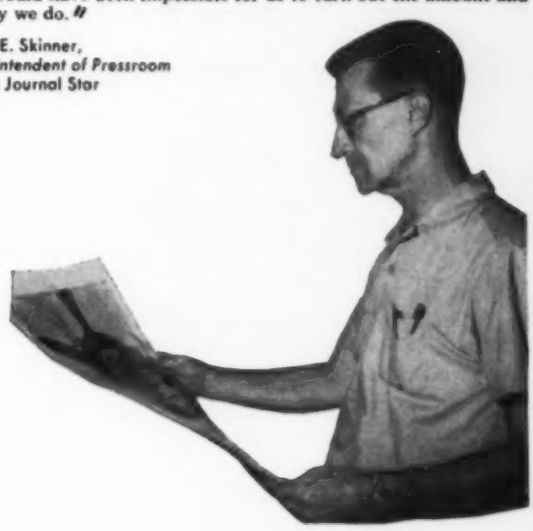
"This installation is the most amazing piece of equipment I have seen in my 34 years in the newspaper business. On every press with an installation of the Hurletron Control System, our registration has been perfect. We have pulled papers out of the folder before, during and after the paster cycle and found the color in perfect registration."

Harry Eybers,
Production Manager,
Washington Post
and Times-Herald

PEORIA JOURNAL STAR

"The Hurletron has opened up more color business for us. Without it, it would have been impossible for us to turn out the amount and quality we do."

Ralph E. Skinner,
Superintendent of Pressroom
Peoria Journal Star



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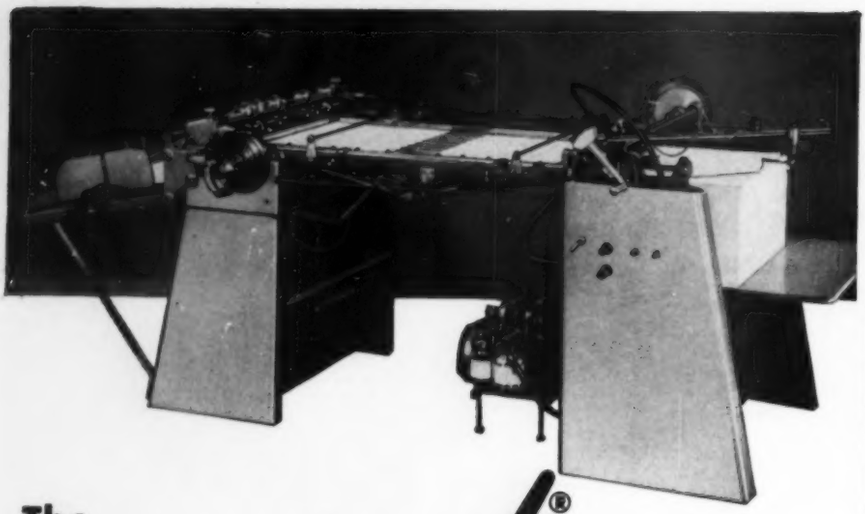

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Feed Table accommodates 24" pile.

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PATENTS

For The GRAPHIC ARTS

Covering patents issued Jan. 1, 8, 15, 22 and 29.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

SPLIT CHASE LOCKUP BAR

For use in printing tabloid newspapers, this lockup bar compensates for the bowing or spring in the forms or chases. This is accomplished by using a pair of resilient bars which conform to the bow or spring of the respective chase. Patent 2,779,273 by Ludwig A. Hollwitz.

ADJUSTABLE STEREO CHASE

The various and respective side bars of a chase are provided with a plurality of equally spaced slots for accommodating taper lock-up screws, whereby the chase is capable of quick and easy adjustment to accommodate various sizes of type and printing materials. Patent 2,779,274 by Edward C. Gadden.

TYPOGRAPHICAL COMPOSING MACHINE

The machine facilitates the proper assembly of spacebands by reducing or removing the tension on a composed line before each spaceband enters the elevator. Thus, much of the resistance to the entry and settling of the spacebands in the line is eliminated and the spacebands are able to quickly assume their natural hanging and properly seated positions. Patent 2,779,456 by Paul Hilpman, assigned to Mergenthaler Linotype Co.

•

Platemaking:

ETCHING MACHINE

More uniform and constant etching of a printing plate is the main object here. A novel planet and ring gear combination turns a revolving work support. This moves the work support in a nonrepetitive work path for at least several revolutions. Other improvements, including a simplified cover closure, make this a simpler and less expensive mechanism. Patent 2,776,512 by William Guenst.

PUNCHING DEVICE WITH LOCATING PINS

To obtain stepping over and up of an image on a sensitized plate, each image must be exactly registered. Holes punched by this device are made in the original masking material. The punch is provided with an accurate scale and pin arrangement. Patent 2,776,712 by Chesley F. Carlson.

FIXING ELECTROSTATIC POWDER IMAGE

Powder images may be fixed onto the surfaces of electrophotographic plates by introducing the plate into a chamber containing the vapor of a volatile solvent for the resin. After image has become adhesive, the plate is removed to permit evaporation of the solvent. Patent 2,776,907 by Chester F. Carlson, assigned to The Battelle Development Corp.

GRAINING SURFACES APPARATUS

In preparing a printing plate surface to receive a suitable coating, this apparatus uses a nozzle which first sprays an abrasive onto

the plate surface, then the same nozzle directs air under pressure onto the abrasive. The abrasive can be recovered for re-use. Patent 2,777,256 by Jens A. Paasche, assigned to Cline Electric Mfg. Co.

CORONA DISCHARGE DEVICE

Good development of photoelectric plates is achieved by this invention, which uses an electrode to charge the insulating layer uniformly in a predetermined time to a potential below the maximum which the layer will sustain. This avoids streakiness or breakdown of the photoconductive layer. Patent 2,777,957 by Lewis E. Walkup, assigned to The Haloid Company.

COATED PAPER PLANOGRAPHIC PRINTING PLATE

This plate is capable of producing almost as many prints as are obtainable from metal planographic plates. It uses a layer of oleophilic barrier coating, a pigment and adhesive layer, and a second titanium dioxide layer containing a cellulose derivative and a cured amino-aldehyde resin. Patent 2,778,301 by Frederic E. Brinnick, Arthur Reilly and Towers Doggett, assigned to S. D. Warren Company.

PHOTO-SENSITIVE COATED PAPER PLATE

The plate has a paper base having a calendered coating layer which consists of an insolubilized carboxymethylhydroxyethyl cellulose and a photo-sensitive layer. The latter layer may be one obtained by the action of sulfite upon a formaldehyde condensate of a paradiazonium salt of a diphenylamine. Patent 2,778,735 by Frederic E. Brinnick, Towers Doggett and Raymond L. Oransky, assigned to S. D. Warren Company.

●

Printing Presses:

SHEET FED ROTARY PRINTING PRESSES

A single mechanism is used for conveying sheets, fed from a sheet supply pile, through one or more printing units, and one or more sheet drying units when used, to a sheet delivery pile, thereby ensuring perfect control of the sheets, by eliminating the usual plurality of sheet transfer devices for conveying sheets to the sheet delivery pile. Patent 2,775,934 by Hans J. Leuhrs and Henry M. Clarke, Jr., assigned to The Cottrell Company.

REGISTER ADJUSTMENT

To produce a simplified device for concentrically arranging the lateral and peripheral adjustments of printing rollers, two handwheels are mounted side by side on the same side of the printing press. The wheels are independently rotatable to axially displace two concentrically arranged threaded bushings, one of which causes a lateral adjustment of the plate cylinder while the other rotates the plate cylinder to give a peripheral adjustment to cylinder. Patent 2,775,935 by Robert Reinartz and Oskar Morgenlaender, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

GRIPPER BAR SUPPORTER FOR PRINTING PRESS

In grippers of the type comprising a control lever urged against a cam by a spring, difficulties have been encountered which required the use of more space and mechanism. This new coiled bending spring is accommodated in the hollow shaft of the auxiliary gripper. Movable support of the free end of the spring is dispensed with. The new arrangement is simpler and takes up much less space. Patent 2,776,136 by Paul Dietrich, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

PAPER MACHINERY

In a continuous web roll unwinding, changing and tensioning device, the main tension control is constituted of one or more continuously driven belts, and driving connection between the main tension control and the spindle of the unwinding roll is established through an overrunning clutch. Patent 2,776,802 by Richard W. Phelps, assigned to The Black-Clawson Co.

FOUNTAIN ROLL MOUNTING

In mounting an ink fountain roller of the type covered by patent 2,328,990, the insertion of the mount is facilitated and adjustable to effect a snug running fit. The snug fit also prevents leakage of the ink. Patent 2,777,388

HOW TO CUT MAINTENANCE COST ON COMPOSING ROOM MACHINES

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2. Buy Top-quality adjusting Metals
3. Use Top-quality Fluxes
4. Supervise your maintenance and re-melt practice
5. If (1) to (4) don't solve current problems, send for a Federated Service Man.

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by Henry F. Meyer, assigned to Harris-Seybold Co.

PRINTING PRESS ROLL DRIVE

This invention provides a disengageable coupling between a printing press roll and its drive shaft. Thus rolls may be removed from the press, without dismantling the drive means, by lifting them from open bearing brackets. Patent 2,778,302 by Robert W. Reinartz, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

ROTARY OFFSET PRESS ROLL SUPPORT

This apparatus prevents printing inequalities at high speeds in rotary three-cylinder printing presses. The blanket cylinder is supported independently of the impression cylinder, and is fitted with bearers of contact diameter for engagement with similar bearers on the plate cylinder. These and other improvements prevent vibration of the plate, blanket and impression cylinders. Patent 2,778,303 by Laszlo M. Stempel, assigned to John Waldron Corp.

PLATE CLAMPING MEANS

This clamping arrangement keeps the full area of the plate flat against the cylinder surface, so that even the gap between plate ends is very small. This prevents crystallization of the plate. The novel clamping means can be easily and quickly adjusted without having to reach awkward places or remove the cylinder. Patent 2,778,307 by Franz Heller, assigned to American Type Founders Co., Inc.

STEAM DISTRIBUTOR TUBE

For use with apparatus of the type covered by patent 2,627,667, Methods and Apparatus for Drying Inks, this tube distributes a thin sheet of extremely high temperature steam. The tube is cast from rust resistant metal. Patent 2,778,683 by Joseph R. Gillis.

DRIVING MECHANISM FOR TYPE BED OF CYLINDER PRINTING MACHINES

This drive is applicable to all types of cylinder printing machines. All parts of the drive remain in constant positive connection, which assures smooth running of the machine. The drive includes a toothed segment, and a gear wheel to engage and roll on segment and effect an oscillatory motion about a fixed axle, which mechanism cooperates with a toothed rack on type bed. Patent 2,779,198 by Artur Buttner, assigned to Schnellpressenfabrik Aktiengesellschaft Heidelberg.

MAGNETIC TORQUE TRANSMISSION

This control system may be applied to web printing presses or the like. It utilizes hysteresis as a working force. A magnetic transmission employing this principle is half the size of an ordinary motor of comparable horsepower. Patent 2,779,548 by Robert Helmer, assigned to Helmer Transmission Corp.

MAINTAINING SIDE REGISTRY IN WEBS

A novel fluid-controlled side-registry device is described which is simple and inexpensive to construct. Accuracy in registering, reduced friction and self-regulation are other features and the device may be applied to existing commercial printing and/or web-guiding apparatus. Patent 2,779,591 by William F. Huck, assigned to Huck Company.

●

Printing Inks:

PROCESS FOR PRINTING INKS

The process provides for grinding together in a mill, having loose tumbling grinding elements, rosin, calcium hydroxide, zinc oxide, a pigment filler and acetone, without heat, until the reaction between the materials is complete. Patent 2,776,895 by Jesse L. Biser, assigned to The Roto Ink Corp.

PRINTING INK

Coloring matter and driers are dispersed in a vehicle comprising an ester of a hydroxylated homopolymer of butadiene containing 1 to 15 per cent oxygen by weight, linseed acids, phthalic anhydride, and a vegetable drying oil, to prepare this quick drying ink. Patent 2,778,806 by William H. Hutchinson, assigned to Phillips Petroleum Co.

●

Feeding, Folding, Delivery:

BEARING SUPPORTS FOR ROLL PRINTING MACHINES

This patent refers to machines employing spaced print rolls between which board carton stock and the like is fed continuously. It provides a bearing support frame at one end of a feed table in which bearings for the roll shafts, idler and drive shaft are exposed, readily adjustable. The overall size of the machine is reduced by this arrangement and a compact, rapid, continuous chain feed is provided. Patent 2,776,619 by Jasper Willsea.

●

Binding, Cutting, Perforating:

FEEDING BOOKS TO CASING-IN MACHINE

A pair of opposed horizontally running belts are mounted on laterally reciprocable carriages so that the belts move together to grip a book and carry it with its spine up and with lower edges of its pages making light contact with a support guide. This minimizes book damage such as marking or bending of pages. Patent 2,777,562 by John O. McCahon and Robert G. Proctor, assigned to R. R. Donnelley & Sons Co.

●

Miscellaneous:

MEASURING-CUTTING DEVICE

A measuring element in association with the cutting blade of a dispenser measures lengths of paper to be cut from a roll and then performs the severing operation. Guesswork in estimating size is eliminated and the time of printing machine operators is saved in cutting sheets for top packing or underpacking. Patent 2,776,492 by Theodore C. Pickett, assigned to Minnesota Mining & Mfg. Co.

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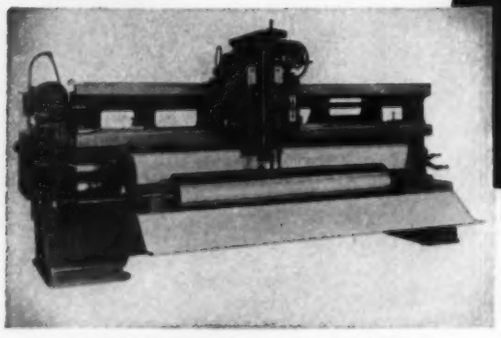

Model "HL" Grinding and Polishing Machine. Taking cylinders up to 70" circ. x 89" face.

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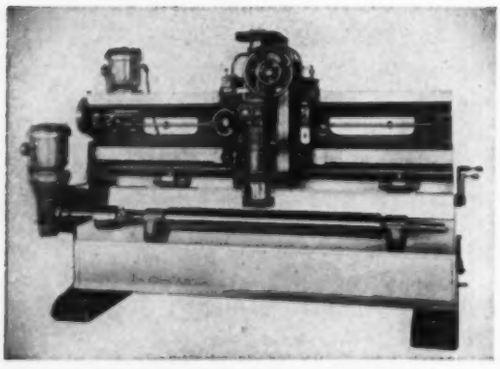
These machines are precision built in two standard sizes. Grinding and polishing is done with special "Intaglio" stones using water as a coolant, thus eliminating all dust. The resulting finish is finer than obtainable with paper and is completed in half the time. The grinding and polishing stones are mounted on a chuck plate which is attached to a spindle having a combination concentric and eccentric motion. The eccentric motion actually shears off the grain or roughness, leaving a smoother surface than is obtainable otherwise. The concentric motion combined with a special adjustable "floating" action is used for finishing the cylinder to a smooth, highly polished surface.



Model "HS" Grinding and Polishing Machine. Taking cylinders up to 38" circ. x 52" face.

Each machine is completely wired and run on a semi-production basis before it is shipped to the customer. Extensive periodic inspections are carried on during this interval to assure years of trouble-free operation.

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PATENT SEARCHES

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SPACEBAND CLEANING MACHINE

A space band cleaning device of the chain-fed type and similar to the machine of patent No. 2,688,413 has been improved to assure a more effective cleaning of space bands. Patent No. 2,775,777 by Maurice H. Hartzell.

INK DISPENSER WITH QUANTITY ADJUSTMENT

This portable device is useful in a job print shop for dispensing predetermined quantities of ink. It utilizes interchangeable cartridges, can be easily set, and has an abutment carrying an indicia member for easy reading. Patent 2,776,075 by Dudley W. Etter.

MINIMIZING PRINTING INK OXIDATION

A disposable flat annular device is inserted in each can of ink to act as a seal against the oxidation of the ink. Patent 2,776,784 by William B. Franklin.

LITHOGRAPHIC PLATE DAMPENING ROLLER

The tubular fabric jacket of this roller is knitted so as to allow the jacket to expand or contract to fit rollers of various sizes. It is impregnated with a polyvinyl compound to make it oil repellent and give increased moisture carrying capacity. Patent 2,778,093 by Norman A. Mack.

HYDRAULIC PAPER CUTTER CONTROL

The control includes a valve which has a neutral position and can be moved either way from the neutral position to direct hydraulic figuid to either the top or bottom of the cylinder to move knife. The knife is in its uppermost position when at rest. Patent 2,778,341 by Michael E. Papanoli and James W. Lee, assigned to The Challenge Machinery Co.

ELECTROSCOPIC TONER METERING DEVICE

The operation of applying a finely-divided resinous powdered toner to a xerographic developer is facilitated by flushing metered quantities of toner from the toner outlet part of the dispenser by the action of the xerographic developer material. Patent 2,779,306 by Harry L. Dunn, assigned to International Business Machines Corp.

WEB SPLICING MECHANISM

A contact bridge operates electrically timed controls which splice by pasting the trailing end of a drawn web with the replenishing roll. A splice is effected without interruption or even slowing down of the speed of web supply. Patent 2,779,546 by David J. Scott, assigned to Walter Scott & Co., Inc.

Carnegie Conference Program

Top management in the printing industry will return to school, April 11, for the annual Carnegie Institute of Technology Conference on Management In the Graphic Arts. The program will include a film titled *Work Simplification*. Following the film a panel discussion on *Methods Improvement and Work Simplification* will be held. Panelists are: Lewis D. Fykse, Harris-Seybold Co.; Donald E. Sommer, Rudisill & Company, Inc., Lancaster, Pa.; and Raymond N. Blair, Carnegie Tech. Vernon R. Spitaleri, Knight Newspapers, Inc., Miami, Fla., will also speak.

LTF Elects Officers

The annual meeting of Lithographic Technical Foundation's members was held on Feb. 19 at the Hotel Shelburne, New York, N. Y.

Six directors elected for four year terms are: Lorne B. Campbell, Montreal Litho Co., Montreal, Canada; Earl Gray, Caspers Tin Plate Co., Chicago; M. J. Hoover, Sun Chemical Corp., Long Island City, N. Y.; John McMaster, Eastman Kodak Co., Rochester, N. Y.; Charles Rossotti, Rossotti Litho Co., North Bergen, N. J.; Otis Wells, Western Lithograph Co., Wichita, Kan.

At the director's meeting the following officers and standing committee members were elected: John F. Perrin, president; Andrew Donaldson, jr., vice president; George C. Kindred, treasurer; and William H. Glover, jr., secretary. The executive committee consists of: Z. Wayne Adams, Harry E. Brinkman, William H. Bulkeley, Andrew Donaldson, jr., William H. Glover, jr., Elmer G. Voigt.

One of the chief matters for the board's consideration was the approval of a budget for 1957. The budget approved is one for almost $400 thousand, the highest in the Foundation's history.

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Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc. — 1957 Conv., Bellevue-Stratford Hotel, Philadelphia, Oct. 14-16. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1957 Conf., Morrison Hotel, Chicago, June 10-12. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1957 Conv., Mount Washington Hotel, Bretton Woods, N. H., Sept. 23-25. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf. — 1957 Conf., Brown Hotel, Louisville, Ky., May 17-18. Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

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Graphic Arts Trade Assoc. Executives—1957 Meeting, Chicago, Ill., tentative dates Oct. 12-13. Secy.-Treas. Charles P. Hackett, Memphis Printing Industries, 215 Hickman Bldg., Memphis, Tenn.

Gravure Technical Assoc. — Exec. Secy. Edward S. St. John, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1958 Conf., Hotel Claypool, Indianapolis, Ind., Jan. 12-14. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press*.

Illinois Newspaper Mechanical Conf.—1957 Conf., Hotel Faust, Rockford, Ill., Sept. 28-29. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News*.

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., American Hotel, Bal Harbour, Fla., Oct. 21-24. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-7. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—1957 Conv., Rochester Institute of Technology, Rochester, N. Y., July 28-Aug. 2. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N. W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-5. Secy. Francis J. Tominey, *New England Printer & Lithographer*, 470 Atlantic Ave., Boston 10, Mass.

Intl. Typographic Composition Assoc. — 1957 Conv., Hotel President, Kansas City, Mo., Sept. 18-21. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—1957 Conf., Hotel Hanford, Mason City, Ia., May 4-6. Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf.—1957 Conf., Town House Hotel, Kansas City, Kans., Sept. 7-8. Kansas Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—Exec. Dir. W. Floyd Maxwell, 381 Fourth Ave., New York 16, N. Y.

Mid-Atlantic Newspaper Mechanical Conf.—PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—1957 Conv., Palmer House Hotel, Chicago, May 2-4. Exec. Secy. Eugene Hanson, 4440 Bessie St., St. Louis 15, Mo.

National Assoc. of Photo-Lithographers—1957 Conv., Chase-Park Plaza Hotel, St. Louis, Mo., Sept. 11-14. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—Secy. J. H. Londergan, 220 E. 42nd St., New York.

National Printing Equipment Assoc., Inc.—1957 Conf., Hotel Morrison, Chi-

cago, Oct. 15-16. Secy. James E. Bennet, 140 Nassau St., New York 38.

National Safety Council Printing and Publishing Section—1957 Conf., Oct. 23-24. Staff Rep. Arthur Siedlecki, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — 1957 Conf. Ellis Hotel and Winding Brook Motel, Keene, N. H. May 18-19. Secy, Lewis R. Greene, Westerly (R.I.) *Sun.*

New England Newspaper Mechancal Conf.—1957 Conv., Hotel Statler, Boston, Mass., Oct. 19-20. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union.*

Northwest Mechanical Conf. — 1958 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 22-24. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf., —1957 Conf., Multnomah Hotel, Portland, Ore., Aug. 23-25. Secy. Donald Newhouse, Prod. Mgr., The Portland (Ore.) *Oregonian.*

Packaging Institute Assoc. — 1957 Forum, Hotel Statler, New York, N. Y., Oct. 28-30. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1957 Annual Conv., Morrison Hotel, Chicago, Ill., Oct. 14-18. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Research and Engineering Council of the Graphic Arts Industry Inc. — 1957 Meeting, Ben Franklin Hotel, Philadelphia, May 15-17. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave., N.W., Washington 15.

Screen Process Printing Assoc., Intl. —1957 Conf., Sheraton-Cadillac Hotel, Detroit Mich., Oct. 26-28. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1957 Conf., Dinkler Tutwiler Hotel, Birmingham, Ala., Aug. 18-20. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

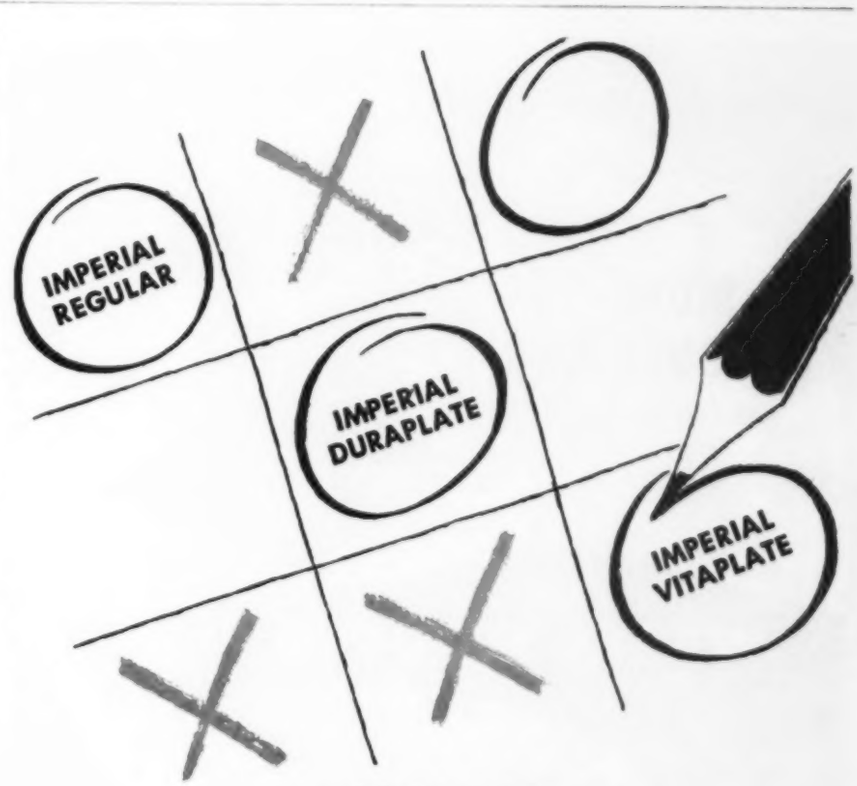
Southern Graphic Arts Assoc.—Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Technical Assoc. of the Graphic Arts —1957 Conf., Ben Franklin Hotel, Philadelphia, May 13-15. Secy.-Treas. Phillip E. Tobias, 140 N. 6th St., Philadelphia 6, Pa.

Broad Now Plant Planner—*Newsday* the Long Island, N. Y., tabloid announces appointment of Harvey Broad as planning superintendent. Formerly pressroom superintendent, Broad will now head the planning section of the production manager's office.

Zarkin Appointment—Zarkin Machine Co., Inc., has appointed Arthur Steiner as West Coast sales manager with headquarters in Los Angeles. William Kruse will be in charge of installation and service work.

Mexican Team at RIT—Ten representatives of the Mexican Lithographic Industry visited the Printing and Graphic Arts Research Depts. of the Rochester Institute of Technology, recently. The visiting lithographers are members of an industry productivity team which is visiting offset printers, equipment manufacturers, research, trade and labor organizations in this country. Shown is Frank DeWitt, assistant head of RIT Graphic Arts Research Dept. with Yrma Suastegui and Carlos Portillo, group leader of the Mexican team, examining a press plate.



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News ITEMS

Hoe Business Report—A new business total of $21.5 million was announced by R. Hoe & Co., Inc. in its 1956 annual report. This was a 16% gain over the previous year, according to the company. Joseph L. Auer, president, stated that an order backlog of $13.7 million formed the major part of the new business. The report revealed that $12.6 million of the 1956 backlog represented printing presses. In 1955 press machinery represented $8.4 million of an $11 million total backlog.

Lanston Monotype Appointment—Lanston Monotype Co., Div., of Lanston Industries, Inc., announced appointment of Louis Bentzman as chief engineer. Bentzman was formerly chief engineer and plant manager of Saxony Electronics, Inc.

Challenge Sponsors School—A Graphic Arts Department will be established in the Grand Haven High School, Grand Haven, Mich., through the sponsorship of Challenge Machinery Co. Financial aid was offered through Challenge's James L. Lee Foundation and through the interest of J. Edgar Lee, president of the company, and J. Wesley Lee, executive vice president and general manager.

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JONES

Glyn C. Jones, production engineer with the Dallas (Tex.) agency of Mergenthaler Linotype Co., now represents the company in the southern half of Texas. Jones joined Linotype's sales staff in 1954. He has a Bachelor of Science degree from Carnegie Institute of Technology, where he majored in Printing Management.

Intertype Annual Report—The Intertype Corporation report to its stockholders showed that net earnings after taxes were $1,550,579 for 1956, as compared with $1,208,243 for 1955. On a per share basis, net earnings after taxes were $3.07 on the 505,432 shares outstanding at Dec. 31, 1956. Billings of Intertype Corporation and its subsidiary, Fairview Foundry Inc., for 1956 were $14,302,373 as compared with $12,805,301 for 1955.

Employment Service—The fifth anniversary *Bulletin of Available Personnel* is being distributed by the Graphic Arts Employment Service, 307 E. Fourth St., Cincinnati 2, O. The company serves key personnel and skilled production personnel in the Graphic Arts.

FOSTER

Plant Superintendent—Roberts & Son, printers, lithographers and engravers in Birmingham, Ala., recently announced that James D. Foster was named plant superintendent. Foster was previously employed in Nashville, Tenn. as production manager.

William T. Rehling has been named New York district manager for West Virginia Pulp and Paper Co. He will serve on the staff of Albert L. Armitage, manager, commercial printing paper sales. Fred H. Lapnow was named staff assistant to Armitage.

Charles A. Peugeot, a leader in the newspaper dry mat stereotype process, died Feb. 14 at the age of 84 In 1918 Peugeot joined Benjamin Wood in the formation of the Wood Flong Corp. where he served as technical consultant and salesman until last April.

McCANN

Heidelberg Names Sales Manager—James D. McCann was named by Heidelberg Eastern Sales Co. as general sales manager in charge of platen and cylinder sales, it was announced by Ira J. Lipson, vice president and general manager.

Three Branch Managers—Sinclair and Valentine has three new branch managers. Frank Stapleton was named manager of the Tampa, Florida branch. He was previously associated with the Florida sales staff and the S&V Los Angeles operation. Jack Cummings, who had been heading the Tampa branch, now is branch manager of the Jacksonville, Fla., branch. Charles Cafazza, after 3 yrs. with the St. Louis, Mo., operation, is now branch manager in that city.

STAPLETON CUMMINGS CAFAZZA

Sun Chemical Elects President—Election of Norman E. Alexander as president and director of the Sun Chemical Corp. was announced by the company's board of directors. He succeeds Ralph C. Persons who recently retired. Alexander is president and director of the Ansbacher-Siegle Corp. of New York. Also announced was election of M. J. Hoover as a vice president, and Stuart Z. Krinsly as secretary.

New H-S Research Director—Webster C. Roberts has been named director of research of Harris-Seybold Co., according to George S. Dively, board chairman and president. Roberts will direct further expansion of the company's research activities which are now being centralized in Cleveland for all divisions and subsidiaries. Roberts holds degrees from Case Institute of Technology, Lehigh University and California Institute of Technology.

ROBERTS

Alan Wood Sales—Highest sales in the company's history were reported by Harleston R. Wood, president, and John T. Whiting, chairman, in Alan Wood Steel Co.'s report to stockholders. Sales for 1956 reached $69,330,000. Net earnings for the year, after taxes and charges, amounted to $3,096,000, equal, after dividends on preferred stock, to $4.04 per share on the 696,007 common shares outstanding at the year-end.

Three Linotype Changes—Karl W. Buchholz, a Linotype production engineer, was appointed to represent the Chicago Agency of Mergenthaler Linotype in the territory of North Dakota, South Dakota, and Western Minnesota. Buchholz has been with Linotype since 1936. Succeeding Buchholz is Floyd H. Fliger as production engineer for the Company's Chicago Agency. His territory consists of Kansas and Western Missouri. Fliger joined Linotype in 1956. Also announced was appointment of Max E. Krayer as assistant director

BUCHHOLZ FLIGER

Howard Flint Ink Co.
·Gravure ·Letterpress ·Lithographic ·Flexographic
ATLANTA · CHICAGO · CLEVELAND · DENVER · DETROIT · HOUSTON
INDIANAPOLIS · LOS ANGELES · MINNEAPOLIS · NEW ORLEANS · NEW YORK · TULSA

For More Information Circle 52 on Reader Service Card

of the Overseas Sales Div. He was most recently assistant to the vice president in charge of overseas sales.

WISHY

Frank Wishy Appointed—John J. Fields III, president of William C. Herrick Ink Co., Inc., announced appointment of Frank Wishy as sales and service representative. His territory will be in the New York Metropolitan area.

Link-Belt Annual Report—Link-Belt Co. sales of $163,921,863 for 1956 were the highest in the company's history and exceeded the 1955 sales of $129,453,392. The company's annual report also showed net earnings of $11,072,134 compared with $7,602,960 for 1955, or $5.95 per share compared with $4.45 per share in 1955.

Lithographic Award Program — An award program to promote highest standards of lithographic reproduction and to pay recognition to individual lithographers, platemakers and pressmen has been announced by Minnesota Mining and Mfg. Co. Ten certificates and cash awards will be made each quarter of 1957 for excellence of reproduction accomplished on lithographic presses, according to C. W. Goodsell, general sales manager, Printing Products Div. Entries may be halftones, solids, letterheads, forms, illustration or other types of lithographic reproduction. Competition is open to any entry reproduced from 3M brand presensitized lithographic plates.

New Branch Manager for Harris-Seybold Co. in the Minneapolis and St. Paul, Minn., area is James M. Hagedon. Also covered by the branch is Minnesota, North and South Dakota, eastern Montana, and most of northwestern Wisconsin.

HAGEDON

Zarkin Appoints Dave Banks—The Zarkin Machine Co., Inc., has appointed Dave Banks as New England representative with headquarters in Cambridge, Mass. Banks has been with Chemco Photoproducts Co., Inc., Robertson Photo-Mechanix, Inc., and Harold W. Pitman Co.

HANSEN

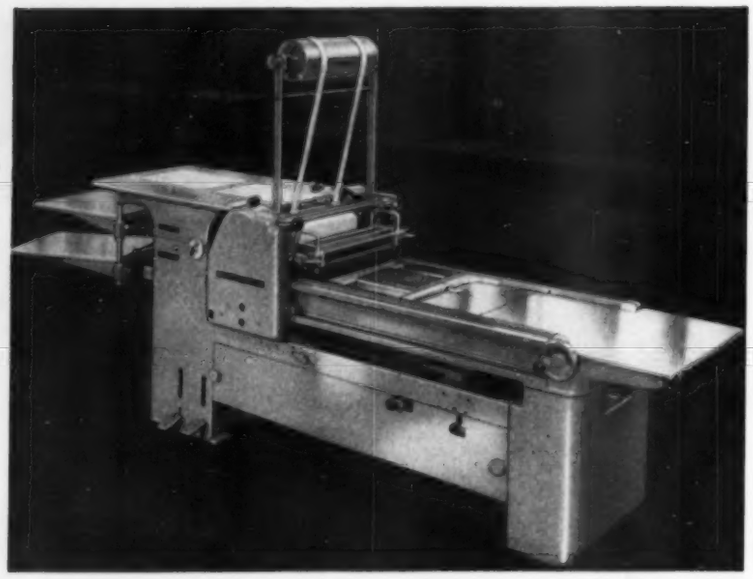
Bernard A. Hansen has been appointed vice president and general manager of the Recorder Printing and Publishing Co., San Francisco, Calif. Hansen succeeds Frank F. Kilsby who recently retired. Hansen has been with Recorder since 1927.

Los Angeles Association Elects—Sidney James of Los Angeles was recently reelected to a second term as president of Printing Industries Assoc., Inc. of Los Angeles at a 500 member meeting. Dale Magor, who was chairman of the 1957 Printing Week Committee, was elected vice president, and Irl Korsen was named secretary-treasurer.

Two Promoted at H-S—C. A. Loefgren has been promoted to sales manager of Harris-Seybold Co., and Lloyd G. Butler has been named assistant sales manager, according to Ren R. Perry, vice president of sales. Former general sales manager Loefgren will be responsible for sales-service in the U. S. and Canada. He will be aided by Butler, former executive assistant to vice president Richard B. Tullis.

LOEFGREN BUTLER

Vandercook Power 219 *with Adjustable Bed and Automatic Tape Sheet Delivery. Maximum plate or form size 18" x 24". Maximum speed, 500 proofs per hour.*



Why Waste High Priced Operator Energy On A Crank Handle?

Fast and completely power operated, the Vandercook Power 219 will pay for itself by giving you more production and better quality! The Vandercook Power 219, when equipped with the new Automatic Tape Sheet Delivery which returns the printed sheet to the operator at the feed board, is the most efficient test press for the production of 1 to 1000 proofs of the finest quality. Trade in your hand driven proof presses on modern high speed Power 219's. Write for information.

VANDERCOOK & SONS, INC.

General Offices, Research Laboratory, Demonstration Room & Factory
3601 W. Touhy Ave., Chicago 45, Ill. Phone: ROgers Park 1-2100
Eastern Office & Demonstration Room
323 E. 44th St., New York 17, N.Y. Phone: MUrray Hill 4-4197
Western Office
3156 Wilshire Blvd., Los Angeles 5, Calif. Phone: DUnkirk 8-9931
In Canada, Sears Limited

VANDERCOOK Printing Equipment

For More Information Circle 143 on Reader Service Card

...Cedar Rapids Gazette

solves type melting problems

with 3 Kemp Pots...

Type melting at the Cedar Rapids (Iowa) Gazette is cheaper, faster and cleaner since the newspaper installed 3 Kemp Melting Pots.

The pot sizes are 7 tons, 7,000 pounds and 3,200 pounds. They are kept full at all times, with temperatures automatically controlled between 575 and 630°F. To save fuel, all 3 pots can operate at once on one Kemp Carburetor.

Kemp saves time and costs

According to Mr. Tom Caldwell, stereotype superintendent, "We've been able to expedite production and processing at a higher rate than before. We especially like the temperature uniformity and quick response of the immersion burners. Good insulation makes working conditions more comfortable." There has been no pot breakage or down-time on any of these Kemp units since installation in 1951!

Let Kemp help you

Kemp Immersion Heating can solve your melting problem too. Kemp engineers will be glad to show you how. For complete facts, write today.

IMMERSION MELTING POTS

KEMP OF BALTIMORE

ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS
SINGEING EQUIPMENT
CARBURETORS
BURNERS • FIRE CHECKS
SPECIAL EQUIPMENT

THE C. M. KEMP MFG. CO.
405 E. Oliver St., Baltimore 2, Md.

For More Information Circle 78 on Reader Service Card

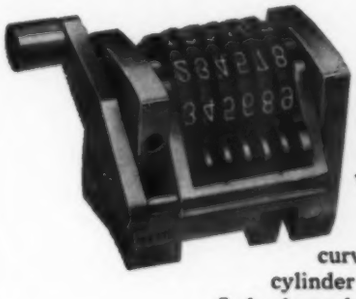
No!

Get sharp, accurate numbering...

Paced for today's FASTEST ROTARY PRESSES

—with WETTER ROTARY NUMBERING MACHINES

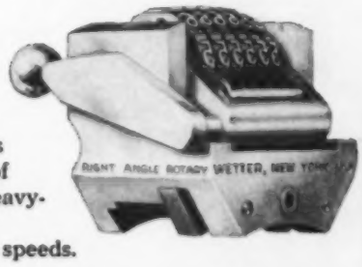
These rugged cam-actuated machines, specially designed for high-speed rotary presses, are built for trouble-free performance. They give you perfect number sequence, clean, sharp impressions, crisp, *accurate* register—every time. That's why top printers agree—"you do it *better* with *WETTER!*"



PARALLEL ROTARY MODEL

Rugged number wheels with heavy-duty ratchets. One-piece, curved-base steel frame custom-curved number faces (to fit cylinder curvature). Wetter Quik-Lok clamp base saves set-up time—needs no mounting ring adapters.

RIGHT-ANGLE ROTARY



Barrel-shaped number wheels imprint numbers at right angles to axis of impression cylinder. Heavy-duty construction—for top accuracy at highest speeds.

BOTH AVAILABLE WITH ROMAN OR GOTHIC FIGURES

Write today for free folder

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET • BROOKLYN 8, N. Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

For More Information Circle 148 on Reader Service Card

Equipment Sales and Installations Reports

Mergenthaler Linotype

The Little Rock (Ark.) *Democrat* has increased its body type to 8 pt. Linotype Corona and reduced its column width to 11 picas. The paper is using 4 pt. column rules with its new measure, and setting its type on an 8½ pt. slug.

The Albany (Ga.) *Herald* has increased its body type size to 8 pt. Linotype Corona. The face is cast on a 9 pt. slug.

The Montreal (Canada) *Gazette* has changed its body type to 8 pt. Linotype Corona set on an 8½ pt. slug. The Canadian daily used a large front page box and an editorial to call attention of its readers to the changed type face.

The Chicago *Tribune* recently introduced a 5½ pt. type face for use in its financial tables, classified ads, death notices, sports results listings and statistics and other tabular material. The body of the type, being produced by Mergenthaler Linotype Co., is 10% larger than the type it replaced, the *Tribune* said, though the character count per line was not changed. Cost of the changeover, which involved replacement of approx. 100,000 matrices, was about $30 thousand.

The Green Bay (Wis.) *Press-Gazette* has changed its body type to 8 pt. Linotype No. 1 Excelsior with Bold Face No. 2 set on an 8¾ pt. body. The column width has also been reduced to 11 picas. Display matter in the narrower classified columns will be set in Mergenthaler Linotype's Trade Gothic Bold Extra Condensed No. 19 with 17.

The Freeport (Ill.) *Journal-Standard* has changed its typographic format to a head dress in Mergenthaler Linotype Co.'s Spartan Bold with italic. The newspaper will also use Spartan Medium with heavy in its display advertising. A Mergenthaler Model 36 Rangemaster was also recently installed at the *Journal-Standard*, becoming the tenth machine.

•

Fairchild Installation

The world's northern-most newspaper, the *Vestfinnmark Arbeiderblad*, Hammerfest, Norway, has completed installation of a Fairchild Scan-A-Graver, manufactured by Fairchild Graphic Equipment, Inc. Machine is sixth to be installed within the Arctic Circle in the country by J. L. Nerlien, distributors. The 5000 circulation tri-weekly covers the town's 5500 population.

•

Beard Dural Chases

Beard Newsprint & Warehouse Co. reports an order from the Akron (O.) *Beacon-Journal* for 106 Dural chases. Also reported is an order for 36 additional chases from St. John's (Newfoundland) *Telegram*.

•

Hoe Installation

The LaCrosse (Wis.) *Tribune* recently ordered a Hoe color convertible press, manufactured by R. Hoe & Co., Inc. Scheduled for delivery in early 1958, the $500,000 installation will include four units and a folder driven by four 50 h.p. electric motors. Speed of the new press, it was reported, will be over 50,000 copies an hr.

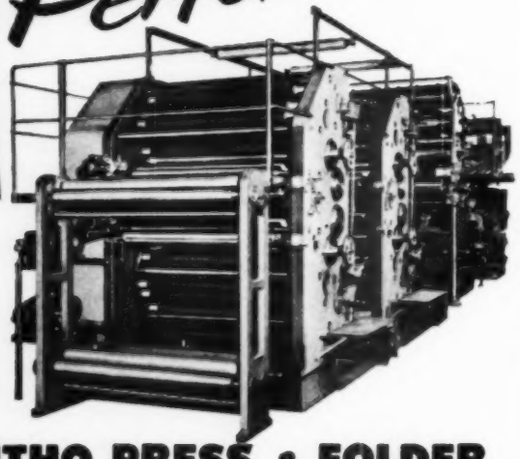
•

McGraw Installs Equipment

F. H. McGraw & Co., engineers and constructors, has been awarded a contract to erect a 128 page printing press for Capper Publications in Topeka, Kan. The pres units will be used for printing the Topeka (Kan.) *Daily Capital*, the Topeka *State Journal*, and *Capper's Weekly* magazine. Erection project, to cost $45 thousand, will begin in April and is scheduled for completion in 60 days.

FOR **EVERYTHING** THAT MAKES AN OFFSET PRESS A *Star Performer*--

THE *Hantscho*



35" x 50"
2-COLOR
HIGH SPEED
PERFECTING

ROLL FED LITHO PRESS & FOLDER

Especially designed for mass production at low operating cost, this popular press has been proved ideal for magazines, manuals, work books, children's books, encyclopedias, etc.

And it's loaded with new and exclusive developments in design and construction. For example: a new adjustable plate clamp to allow close registration on color work.

Some of the other special features of this press are

★ Smooth operation at speeds up to 16,000 cylinder r.p.h. assured by printing unit engineered on a three-frame principle, mounted on a heavy base.

★ Solid forged steel printing cylinders mounted on pre-loaded self-aligning roller bearings.

★ Accurate settings and positive locking on all roller adjustments.

★ Composition-covered ink vibrators to prevent stripping.

★ Vibrator motion adjustable to facilitate split fountain work.

★ Provisions for: electrically controlled side and running register. Dryer and water cooled rollers for the running of machine coated stock. Cross and running perforation.

Built on the unit principle, this press can be supplied with one perfecting unit and folder. Other units can be added for as many as four or more colors, two sides. Rewinder, sheeter and special folder are also available. Standard infeed rolls stacks or automatic pasters can be easily attached.

When you want dependable printing performance that cuts production time and operating costs you want a HANTSCHO press.

For complete details write or wire.

George Hantscho Company, Inc.
602 SOUTH 3rd AVENUE, MOUNT VERNON, N. Y. • MO 7-8200, MO 4-9080
MIDWEST OFFICE: 153 WEST HURON STREET, CHICAGO, ILL. • DE 7-3313

For More Information Circle 115 on Reader Service Card

BOOKS

Color Correction

Lithographic Technical Foundation has published a 224 page book entitled *Color Correction for Offset Lithography* which has been written primarily for the dot etcher apprentice. According to its author, Bernard R. Halpern, color correction is largely an art. It represents the color etcher's accumulation of many years of knowledge and experience. Based on this acquired skill, he studies and evaluates each color job as an individual enterprise. He then plans a custom-built course of action for the particular job. The color correction apprentice needs a basic set of tools, gauges and other guides to substitute, in part, for this lack of experience. He can then measure, rather than judge, the color values he is working with. The text, therefore, provides a mechanical approach to color correction. It also anticipates such modifications in practice which the apprentice will experience as his understanding of art and lithographic reproduction advances.

Some idea of the book's contents may be had from the 17 chapter headings, among which are: Fundamentals of Color, Color Reproduction, Color Correction by Masking, Evaluating

the Color Job, Equipment and Materials, Fake Color Separations, Color Correction Procedures, Difficulties and Remedies, etc.

Color Correction for Offset Lithography—By Bernard R. Halpern. Consists of 244 pages; size, 5½ in. by 8½ in.; more than 60 illustrations, some printed in full color; paper back cover. Order from: Lithographic Technical Foundation, 131 E. 39th St., New York 16, N. Y. Price: LTF members, $1.98 per copy; non-members, $6.40 per copy, includes shipping charge.

Your Printing Costs Are as Follows

A method by which most printing costs can be accurately computed in advance by the businessman or his secretary is contained in a booklet entitled *Your Printing Costs Are as Follows . . .* published by Regina Services Corp. This 16 page 1957 edition consists of up-to-date information in simple, yet detailed form.

Until *Your Printing Costs Are as Follows . . .* was first published, it was difficult to know what printing costs would be because prices of many printers vary according to how busy they are, how paper prices fluctuate, and how fast the customer needs the job. For this reason Regina has taken the bold step of publishing firm prices by which advertising and office supply budgets may be determined in advance.

Copies of the 1957 edition are available for $1 each (to cover cost of printing and handling) from Regina Services Corp., 118 East 25th St., New York 10, N. Y.

Ground Broken for New Headquarters—Heidelberg Western Sales Co. recently announced that ground has been broken for its new Western headquarters in Los Angeles. The 15,000 sq. ft. building is located at 1700 Wall St. Plans also call for customer parking facilities and a Graphic Arts library.

HARGRAVE JOHNSON LAW

IPI District Managers—W. F. Cornell, division president, Interchemical Corporation, Printing Ink Div., has announced assignments in three IPI districts. John T. Hargrave, formerly New York branch manager, succeeds William N. Davies, sr. as Eastern District manager. Davies became president of Interchemical's Textile Colors Div. C. Stanley Johnson, former manager of IPI's Central District, will be manager of the Southern District. William S. Law, manager of IPI's Cambridge, Mass. branch, becomes the central district manager.

Louis B. Laska was appointed New York Metropolitan District sales representative for the Dry-Spray Division of Pneuma-Flo Systems Inc.

CUT REMELTING TIME 50%
CUT LOADING TIME 95%
NOLAN REMELTER and MELTEVATOR
NOW... save time, labor and money
on metal and metal-handling . . . step up production efficiency. The Nolan Remelter melts a full pot in 2 hours, additional loads in 1 hour. Lower your metal costs as raw stock requirements are greatly reduced. The Nolan Meltevator loads 600 pounds of metal in 30 seconds automatically. Eliminate drudgery and time-wasting old fashioned methods. Let one of our representatives survey your operation. Our Engineering Department will supply plans, without obligation. Write or phone for complete information or ask for a friendly call from the Nolan man.
KEEP ROLLIN' BUY NOLAN
NOLAN Corporation
Rome, New York

For More Information Circle 105 on Reader Service Card

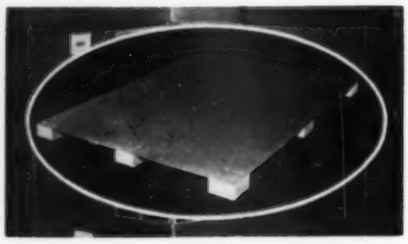
Equipment and Supplies

(Continued from Page 22)

automatic tape operation. The Model 31 is used when more than two magazine capacity is required. A single distributor Linotype, the Model 31, is equipped to carry one to four standard 90 channel magazines. A type range through condensed 30 pt. is offered. For further information, please circle No. 275 on the Reader Service Card.

Mead Give-Away Pallets

Merchant distributors of Mead Papers, Inc. have been notified that shipment of carton packed papers from The Mead Corporation can now be made on disposable, give-away



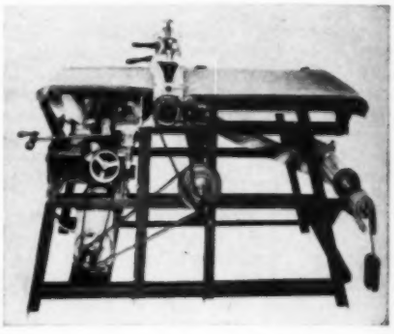
pallets where they can be utilized by the merchant's present warehouse facilities. Pallets will fit standard size of paper and are adaptable for shipment of book and bond papers. Pallet deck is made from chip board with nine wooden legs allowing four way entry for handling equipment. Use will be limited to merchants having true fork trucks with chisel forks, or reach fork type trucks with tilt forks as the pallet has a clearance of only 2 in. For further information, please circle No. 265 on the Reader Service Card.

All-Metal Sensitized Plate

A sensitized aluminum offset plate, named DupliKator, was introduced recently by Lithoplate, Incorporated, subsidiary of Harris-Seybold Co. The DupliKator plate, claims lithoplate, may be processed in a few minutes and runs clean on the press. The plates are packaged in boxes of 50 and 100. For further information, please circle No. 267 on the Reader Service Card.

Book Jacket Laminating Machine

The Potdevin book jacket laminating machine is used to laminate a sheet of acetate on the outside of book jackets. The machine, manu-



factured by Potdevin Machine Co., is used to automatically apply resin type adhesive to a roll of acetate. Operator positions the book jacket face down on the acetate. Both the acetate and book jacket are then carried through laminating rollers onto a conveyor where an operator manually separates the laminated jackets. For further information, please circle No. 272 on the Reader Service Card.

Loose Leaf Plastic Binding

General Binding Corp. has announced a plastic loose leaf binder that can be used in connection with

its binding equipment. It features a plastic back that slides off a molded track, opening the rings of the plastic binding. Binding element is inserted through the punched holes and the slide back is slipped into place, automatically locking the binding. Plastic binding is available in

Lengthwise Shrinkage is no Laughing Matter

It's a fact that Burgess Mats do shrink less lengthwise for a given width shrinkage. This means minimum loss of lineage and revenue for the advertising department. For this good reason plus the assurance of the best possible reproduction—use Burgess Mats.

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of
Burgess Chrome and Supreme Tone-Tex Mats, Freeport, Illinois

A Laboratory Product
BURGESS Chrome MATS

Canadian Representative, R. M. Lousen & Co., Ltd.,
Kennedy Road, Agincourt, Ontario

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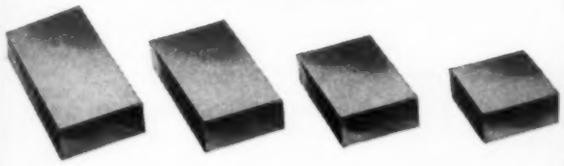
MAGNESIUM BASE



●The ideal newspaper base. One sixth the weight of old-style base. Durable and easy to handle. Precision finished to .001" in height. Available in all heights and sizes. Larger sizes make perfect, light-weight proof press beds and molding slabs. Inexpensive, too.

WRITE FOR NEW PRICES Free descriptive bulletin and prices sent promptly.

THE MONOMELT COMPANY, INC.
1611 N.E. Polk, Minneapolis 13, Minnesota

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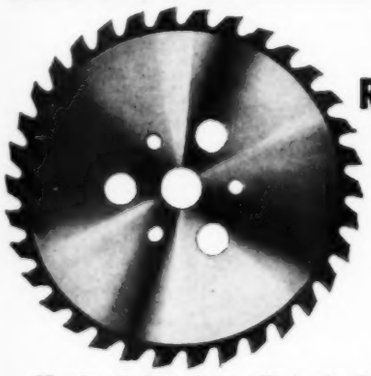

IT'S REVOLUTIONARY

NEW CARBIDE TIPPED SAW BLADE

Newly designed to eliminate lead throw—twice as much **Tungsten Carbide** used for tips—truly an *all purpose* blade for cutting PLASTIC, WOOD, SLUGS, CASTS, ZINCS AND ELECTRO METAL

IT'S NEW—TUNGSTEN CARBIDE TIPPED CUTTER FOR YOUR PONY AUTOPLATE

A *precision* cutter for long life, smooth cutting with less power—less cost of operation

FACTORY PRICES - PERSONAL SERVICE
Send for Complete Catalog

AMERICAN WOOD PRODUCTS & TOOL SUPPLY
705 Montclaire St., Phone: 1770, Edwardsville, Ill.

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NO Slipping and practically NO Parts Replacing on the HARRINGTON

DELIVERY SLIDE

. . . Says
Louie Linecaster

When you install the Harrington Delivery Slide on your Linotype or Intertype, slipping of the clamp is eliminated. The very deep teeth of the bar are engaged by a sturdy, double-toothed clamp.

The Lever Link Screw never comes loose. The back of the screw is peened out into a countersink in the bar and cannot loosen. In addition, the Harrington Slide also includes the Everlasting Long Finger Block, which is adjustable for wear. Because of this adjustment, a source of damage to the Assembling Elevator Back Plate due to dragging of the Long Finger is eliminated.

There is, also, the NO-SET Delivery Slide for Quadder and job machines. With this slide no change of setting is required with each measure change. Leave it at the 30 pica setting and keep setting type.

Folders are available for both types of slides. In the meantime, if you want to try one, order the regular slide by Star Part Number D-3269-A and specify the size of Star Wheel — small, medium or large, and the machine model number.

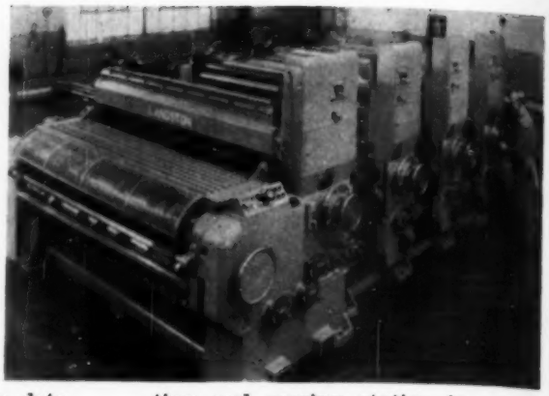
STAR PARTS, Inc.
SOUTH HACKENSACK, N. J.

For More Information Circle 154 on Reader Service Card

two sizes, ⅜ in. and ½ in., and is available in red, black, blue, white and green. For further information, please circle No. 260 on the Reader Service Card.

Multicolor Printer-Slotter

A printer-slotter designed for two, three and four color printing on corrugated box stock has been introduced by Samuel M. Langston Co. The machine, which prints from rubber plates, is available for handling the following sheet sizes: 42 in. by 94 in., 55 in. by 108 in. and 55 in. by 128 in. Langston explains the design of its machine as being of split or opening construction so arranged that additional printing units may be added to a two-color press at a later date.



The new Langston multicolor printer-slotter for printing on corrugated box stock is shown here with its four printing units in open position. Hydraulic power is used to open and close the press. The movable printing stations and the feed end slide on square-lock ways to permit setup of each unit.

Each printing section and the slotting and scoring station is a self-contained unit with its own drive. The machine is power opened and closed, with automatic power-operated, self-tightening locking and unlocking devices. A selector switch provides the means, in one position, to unlock and open the machine automatically to equal preset distances between sections. A maximum opening of 66 in. between any two sections is possible. The movable printing stations and the feed end slide on square-lock ways.

The main drive consists of a variable speed motor which drives a splined shaft. This shaft individually drives each section. Langston claims the drive arrangement eliminates the possibility of backlash accumulation. Each of the stations may be engaged or disengaged from the main drive shaft. Also, the press may be operated in the open positions, states the manufacturer, without affecting drive accuracy.

Circumferential running register on the printing cylinders and upper slotting shaft is accomplished by pushbutton controls. Lateral running register is provided by a screw type arrangement on the operating side.

Printing fountains are individually self-contained units which can be removed from the printer-slotter and replaced with other types of printing and/or coating mechanisms as they are developed. Each fountain is equipped with its own drive which may be adjusted to suit printing requirements.

Band printing is one of the operations which may be performed on the machine. It is also designed so that either slotting or scoring can be done first, and if required, the order of slotting and scoring can later be changed in the field. For further information, please circle No. 259 on the Reader Service Card.

Developer Revitalizer

Para Accelerine is the name of a solution intended to extend the life of A and B type developers used for rapid developing of paper, film and strip film by photoengravers and offset platemakers. Product is said to keep well. For further information, please circle No. 276 on the Reader Service Card.

Ludlow Union Matrix

A Union Label bug may be cast on a 6 pt. body with a Ludlow matrix developed by Sossner Steel Stamps. The engraved matrix is said

CUT PROCESS EXPOSURE TIME
IN HALF
with GRAFARC HIGH INTENSITY ARC LAMPS
GRAFARC 95 AMPERE PRINTING LAMP
For use with vertical printing frames under 40" x 50".
GRAFARC 140 AMPERE PRINTING LAMP
For use with vertical printing frames 40" x 50" and larger.
Sharper reproduction. Dot undercutting eliminated. Uniform coverage of large areas. Illumination variables absolutely eliminated.
Accurate density control regardless of line voltage variations. Constant color temperatures. Power-packed for dense Kodachromes.
Motor-driven . . . fully automatic . . . reliable. Overhead printing lamps available for use with horizontal printing frames. Burn in normal position, avoiding smoking of reflector and preventing ash from depositing on surfaces in the light path.
Models for Monotype Huebner MH photo composing machines assure precise control of intensity for accurate repeats.
Priced Unbelievably Low!
A NEW AND BETTER CAMERA ARC LAMP
The Grafarc Challenger
Dual function motor advances carbons, strikes the arc, establishes correct gap length, and feeds carbons so as to maintain proper gap.
ACCURATE EXPOSURES OF AS SHORT AS FIVE SECONDS
2 Models: 75 and 110 amperes high intensity.
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to provide sharp castings. The master die from which the matrix is made is Miracl steel. For further information, please circle No. 253 on the Reader Service Card.

Pioneer Router-Planer

The addition of a second workholder as standard equipment with the Pioneer router-planer extends application of the unit to shell casts and unmounted plates as well as to type high material. The unit, manufactured by Pioneer-Toledo Corp., is used for routing stereos, electros, zinc, copper and wood cuts. The design of the unit allows it to straddle the work and ride on the bench, a characteristic that leaves the cutter setting independent of the thickness of the work and enables the router to be used as a type high planer. For further information, please circle No. 270 on the Reader Service Card.

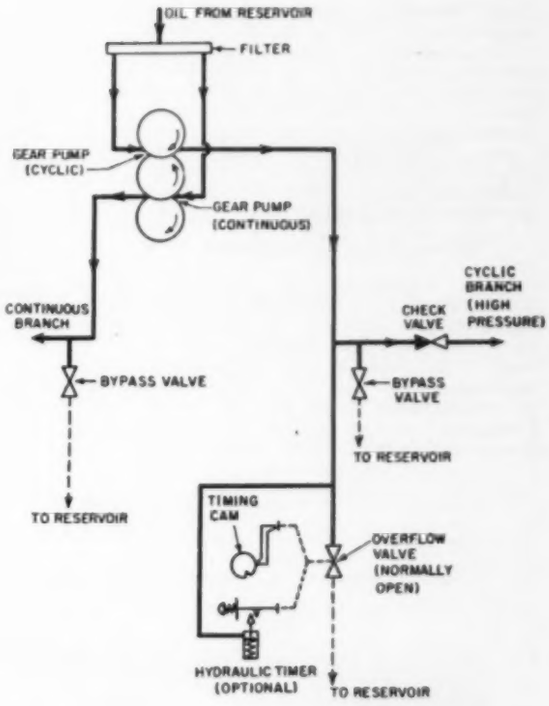
Bijur Duplex Lubricator

Two independent lubrication systems, providing both cyclic and continuous oil flow to different bearings on the same machine, are now being built into a single automatic lubricator, according to announcement by Bijur Lubricating Corp. The lubricator is designed for machines in which some bearings need periodic lubrication, others require oil continuously.

The lubricator consists of two independent gear pumps with a common drive gear, mounted in a single housing, both drawing oil from a common reservoir in the bottom of the housing. When the lubricator's drive shaft rotates, each gear pump draws oil up through a common felt filter disk, then delivers it to its own distribution line.

The cyclic branch is controlled by a cam-operated valve which bypasses the oil inside the pump and closes at predetermined intervals. This closing action directs the oil into the cyclic distribution system. Cyclic pressures can be as high as 150 p.s.i., as low as 25 p.s.i., depending on requirements of the machine being lubri-

In this diagram are illustrated principal components of Bijur Duplex Lubricator for use in machines requiring cyclic as well as continuous flow of lubricating oil to bearings.



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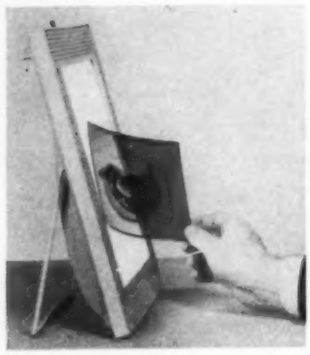
cated. Pressure periods, or cycles, range from 5 min. to ½ hr.

The continuous branch is fed by a constant volume pump through its own passageway and tubes inside the lubricator to the distribution system. Operating pressures may range from 7 p.s.i. to 50 p.s.i., depending on oil volume requirements. For further information, please circle No. 277 on the Reader Service Card.

Transparency Illuminator

Ideax Illuminator Co. announced development of a transparency illuminator, the Idealite, for transparency viewing. The Idealite is less than 2 in. deep at its thickest dimension. In the 13¾ in. square frame is incorporated a 10 in. by 10 in. Plexiglas viewing surface. An 8 w. fluorescent lamp is used. Idealite will



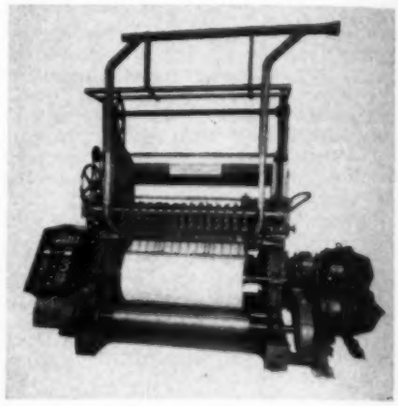
stand on a table or hang flat on a wall. For further information, please circle No. 252 on Reader Service Card.

Chemco Etcher's Pliers

Chemco Photoproducts has announced a change in its Ezy-Grip etcher's pliers. The tool is now cast of manganese bronze. The pliers are constructed with an 8 in. grip design with pivot and shoulders and angled jaw teeth. For further information, please circle No. 261 on the Reader Service Card.

Card Stock Slitting Machines

Two slitting machines which can be used for cutting tabulating card stock to a tolerance of ±0.001 in. were announced by Kidder Press Co. One slitter is a 2500 ft. per min. machine; the other 1700 ft. per min. Features include duct work for the trim removal system. The CW 1700 ft. per min. machine is equipped with a pneumatically controlled, water-

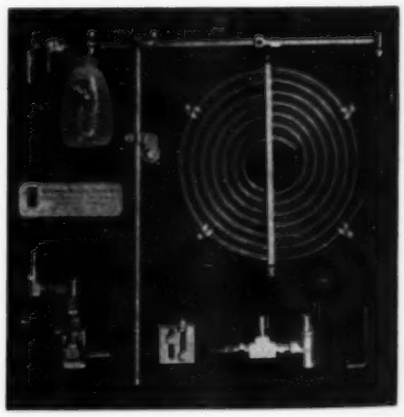


The 2500 ft. per min. slitting machine manufactured by Kidder Press Co.

cooled brake, and a hydraulic system for automatic web tension control in the rewound roll. For further information, please circle No. 269 on the Reader Service Card.

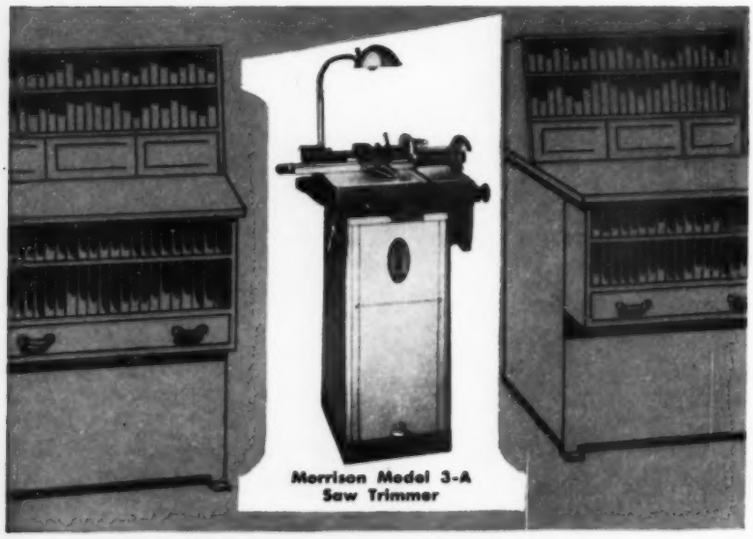
Offset Dry Spray Unit

The Economy offset preventing dry spray unit, model MPH-1-PA, manufactured by Ortman-McCain Co., is operated from compressed air.



The unit is adaptable to the following presses: C & P Rice Unit, Davidson, A. B. Dick, Ditto, Kluge, Multilith and Whitin. For further information, please cirlce No. 271 on the Reader Service Card.

Use the convenient yellow Reader Service Card found in this issue for equipment and supplies inquiries.



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Fluffing of Printing Papers

(By M. S. KANTROWITZ, chairman, Research Committee, Washington (D.C.) Club of Printing House Craftsmen, Inc.

Fluffing, flaking and dusting of paper surfaces occur when material such as paper fibers or fillers are separated from the paper surface by friction or are left on the ragged edges of sheets cut by dull knives.

The fibers and dust rise in the air, over the press, and settle on the rollers and printing plates, resulting in little islands, black specks of ink surrounded by white rings on the printed surface, sometimes referred to as hickies.

In the past, fluffing has been a major problem for the printer. However, with the advent of new developments in paper manufacture, this difficulty encountered in printing is no longer a serious problem, but it still remains with us both in offset and letterpress printing.

One of the most essential qualities required in paper for offset printing is that it should possess cleanliness and freedom from surface fuzz. It should be free from lint or loose particles which tend to lift or pick under printing conditions. It is necessary that the surface fibers be very firmly bound together. This is generally accomplished by the utilization of internal rosin sizing and external surface sizing with starch.

There is very little technical information in the literature concerning papermaking conditions which tend to produce fluffing.

Paper manufacturers attempt to minimize the fluffing tendency of paper by the use of selected fiber content, beating, sizing, fillers, coating agents, drying, and smooth clean cylinders in contact with the paper web. Surface sizing with starch has materially reduced fluffing.

We do not know of any printing conditions which would influence the severity of fluffing. It has been suggested that static electricity and fast running presses may cause the fibers to loosen from the surface.

Thorough brushing or vacuum cleaning of the edges of the paper prior to feeding into the press will greatly reduce the trouble.

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For More Information Circle 165 on Reader Service Card

School Adds Printing Course

Printing management will be added to the curricula offered at Western Michigan University in the fall of 1957. The four year course will lead to a bachelor of science degree. Further information may be obtained from L. J. Brink, associate professor of printing, Western Michigan University, Kalamazoo, Mich.

Flexographic Printing

(Continued from Page 54)

tape and wrapping the entire cylinder in a light plastic material or cloth for a few hours before using the cylinder. After 4 or 5 hrs. the rubber plates will then have more intimately assumed the new arcked position. Sealing tape will prevent any solvent from seeping under the plate edges and loosening the bond.

Ready for the Press

We are now ready to go to press. *More plates are ruined by scrubbing than by press wear.* Do not use a brush of any kind when cleaning plates. Dried ink may be removed by lightly dabbing and wiping with a soft alcohol-soaked rag. .

When practical, the best place to store plates after a run is right on the plate cylinder. If this is not feasible, demount plates by removing sealing tape and then plate and stickyback combination in one piece. Separate the plate from the stickyback by brushing lightly under the plate edge with naptha

or carbon tetrachloride and very carefully pulling stickyback from the plate. Care in handling must be stressed. Clean with alcohol and, after dusting with talc, store in a dry, cool area away from heat and sunlight.

How long should a plate last? How many impressions? There are really too many x factors involved and no one can judge the life of one plate by the life of any other. Let it be uppermost in our minds that careful manual plate handling—when mounting and demounting and while on the cylinders—will contribute more to longer life than mechanical or material deviations from the perfect would shorten plate life.

Literature

(Continued from Page 18)

ALBANY LUBRICANTS

Service Bulletin No. 10 about Adam Cook's Sons, Inc., press lubricants is now available. Tallow lubricants include grease for grease cups, pressure fittings, oil-lubricated presses, and for press gears, cams, chain drives. For a copy, please circle No. 330 on the Reader Service Card.

OPTICAL AIDS

A 12 page brochure, *Industrial Optical Aids*, and a four page price list is descriptive of Bausch & Lomb Optical Co.'s industrial optical instruments. A few of the instruments illustrated and described are a surface comparator, measuring magnifiers, microscopes and illuminators. For a copy, please circle No. 331 on the Reader Service Card.

MATERIALS HANDLING

An idea book on engineered materials handling systems such as conveying systems for newsprint, stereos, magazines and bundles, has been published by Gifford-Wood Co. Details of actual G-W installations are included. For a copy, please circle No. 332 on the Reader Service Card.

BRISTOL IDEA KIT

An Idea Kit, one of a continued series of demonstration portfolios printed on Linton Bristols, is being distributed by Linton Brothers & Co. Kit contains sales building ideas for printers, lithographers, agencies and consumers. Eight commercial printing specimens are included. For a copy, please circle No. 333 on the Reader Service Card.

PAPER DRILL ACCESSORIES

An eight page catalog and selector guide on paper drill accessories entitled *Getting the Most Out of Your Paper Drill* has been issued by The Challenge Machinery Co. Information on hollow drills, drill sharpeners, cornering, slitting and slotting attachments are included. For a copy, please circle No. 334 on the Reader Service Card.

FLOOR PLATE

Alan Wood Steel Co.'s abrasive rolled steel floor plate is described in the A. W. Algrip Booklet AL-530. Algrip is made of a grinding-wheel type of abrasive rolled to a controlled depth in steel plate. It can be used as an overlay or as independent flooring. For a copy, please circle No. 335 on the Reader Service Card.

MONOTYPE-THOMPSON PARTS

Northwest Machine Co. illustrates and describes the Monotype and Thompson machine repair parts furnished by that company in an eight page 4 in. by 9¼ in. booklet. Parts number is included with each part illustrated. For a copy please circle No. 336 on the Reader Service Card.

Printing on Foil

(Continued from Page 58)

basic questions before proceeding to take such jobs, began Pope. To get some of the answers to these questions a trial run was made on an eight-color, 22 in. by 34 in. perfecting web offset press at the Rochester Institute of Technology.

Blankets and rollers were of the non-porous type normally used with heat dry inks. Pressure was achieved with a 0.004-in. squeeze. A set of four color label plates made by the Lithure process was used. Aluminum foil 3.5 microns thick was laminated to 60-lb duplex label paper, with the calendered side next to the foil. The foil surface was given a print treatment. The fountain solution was phosphoric acid adjusted to a pH of 4.2. The inks were a special set combining heat drying characteristics with hard drying properties. A solid of opaque white was run first-down. The second-down ink was a transparent yellow which printed only on the foil. Transparent blue was run third-down. The fourth-down black trapped over both white and yellow successfully. Since it was necessary to carry a much heavier film of white than is normally run

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- Cottrell 64 page rotary magazine press
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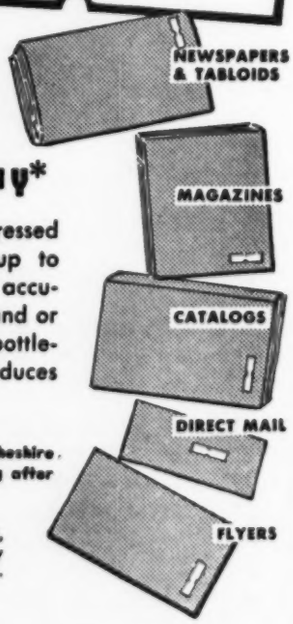

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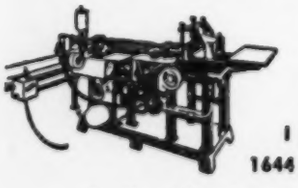

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Operation of the Offset Press

By Theodore F. Makarius

This 254 page book has been written especially for the man who must makeready and operate the offset printing press.

In this 254 page book are 25 chapters and 57 pages of Case Histories for overcoming specific troubles. Some of the chapters deal with: Setting the Pressure, Inking Rollers, Dampeners, Ink Fountains, Mounting Plate and Blanket, Split Fountain Printing, Drying Problems, Register Troubles and others. Included is a six page Ink Problem Reference Chart.

Color Charts are included. One of these demonstrates difference in cleanliness of color when mixing two inks which complement each other. Another color chart has been prepared to show the result of mixing different percentages of components.

Size 5¼ in. by 7$\frac{7}{12}$ in., 254 pages, 19 illustrations. Bound in gold stamped semi-flexible cover.

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on offset presses, it is interesting to note that this black trapped over the white 3 to 4 sec. after it had been printed and before going into the heater.

The press was equipped with an electric heater of 160 k.v.a. capacity at full heat.

Some Observations

With the press running at 4500 i.p.h. at half heat, the web was dry but slightly tacky going into the sheeter. At 7500 i.p.h. the drying with full heat was satisfactory, and the web could be handled by the sheeter. A pile of 5000 sheets run with full heat and with no anti-offset spray on the sheeter, was left untouched for 24 hours. When this pile was rehandled no sticking was found down through the pile.

Until such time as it is possible to install an efficient heater on a sheet fed press, offsetting will remain one of the most important problems of foil printing.

As far as ink is concerned, however, the chief limitation to foil lithography is still offsetting. While work containing colors, transparent solids, and black type can be run into piles, large solids of white or other opaque inks must be carefully racked.

Some Conclusions

The conclusion to be drawn from these considerations is that inks and techniques are available to lithograph foil successfully on sheet or web fed presses. Press speeds will be slower, however, and sheet handling in the delivery pile will require careful watching, Pope concluded.

Importance of Gravure

(Continued from Page 41)

000 impressions have been obtained on super news stock. Chrome plating the cylinders, however, has extended their life to 2,000,000 or 3,000,000 impressions, following which another rechroming could yield another 2,000,000 to 3,000,000 impressions.

One of the disadvantages of photogravure was said to be its reproduction of type faces. The 150 line screen used can reproduce type satisfactorily. Every part of the image on a gravure plate must be screened so that support is provided the doctor blade in its function of taking excess ink off the plate.

In a question on the best stock suitable for gravure printing, the following facts were developed. Stock should be soft and smooth as possible to get good results. On roll fed presses, a 70 to 80 lb. sheet permits good printing speeds. Sheet fed gravure can be run on many different kinds of stock. However, on a hard cover stock, excessive pressure usually has to be applied in order to iron the stock out.

Control of uniformity in the duplication of plates or cylinders involves many factors. Consequently, some difficulty is encountered in getting an exact duplicate. It was found impossible to etch a cylinder or plate exactly the same each time from the same set of positives. Variables in the humidity, the human element, the timing procedure and in the paper makes duplication difficult.

Better Repro Proofs

(Continued from Page 45)

piece (Fig. 1) permits better draining of metal from the back of the mouthpiece jet holes between casts, as well as more efficient directing of metal to the mouthpiece holes, has been found to be of help toward a better type face in many instances.

Mouthpiece jet holes should be cleaned with a No. 52 drill. Larger holes are not necessary and in

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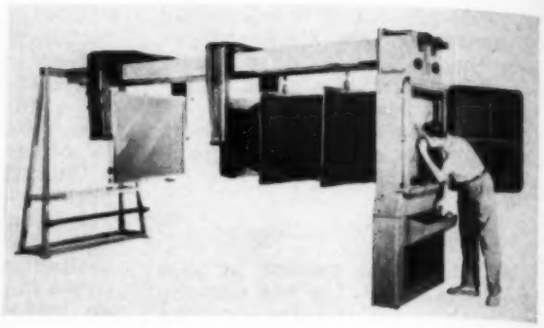
Precision Overhead Cameras — Robertson Photo-Mechanix, it is announced, completed redesigning its overhead Tri-Color Series III cameras. These will be available in 31 in., 41 in. and 48 in. sizes. Incorporated in the new track design is a heavy tube connected by tubular crossed weldments to heavyweight longitudinal flats to provide a torque-free track for resisting heavy deflection loads.



The new track design also permits use of a very large size and heavyweight copyboard.

The rear case is of all cast metal design, with increased circular screen capacity. Provision has been made in the 31 in. model for one screen. The 41 in. and 48 in. cameras can be built to take two screens. Screen elimination in all cases is into a covered housing. Both the new vacuum film holder and the plate rails are swung in heavy cast aluminum doors. The new Tri-Color series is available in a choice of two focusing drives.

Standard equipment on these newer cameras will be an A frame type of gallery track support. The overhead lamp carriers can now be suspended from the camera itself. Also available as an accessory on the camera is Robertson's direct masking system for both plate and film. For further information, please circle No. 278 on the Reader Service Card.

many cases are detrimental because a No. 52 hole retains metal as it melts between casts because of capillary attraction or surface tension which prevents metal flowing on the mouthpiece when melting occurs. The metal in the holes chills from the mold at casting and should break away about 1/16 in. from the face of the mouthpiece at breakaway. This can be checked by inspecting a slug before it is trimmed by the back knife and noting the length of jets. This can also be used as an indication of mouthpiece heat in plants where a pyrometer is not available, as mouthpiece heat is about correct when the projections are from 1/32 in. to 1/16 in. length after casting a dozen or more lines. A long projection indicates a cold mouthpiece.

Mouthpiece Vents—Bear in mind that standard mouthpieces are intended for production machines. To improve the type face it may be necessary to alter the mouthpiece by reworking the vent slots. The purpose of the slots is to permit the air to escape from the mold cavity and throat as metal enters. The faster the metal enters the mold cavity, the better the face will be. It is therefore important that air be displaced quickly. It can be seen that the purpose of the vent slots is to gather this air over as large an area as possible and yet retain metal in the mold cavity without causing excessive length sprues.

Using a sharp mouthpiece vent tool (Fig. 2) start cutting about 1/16 in. from the bottom of the slot and deepen it to about 1/16 in. at the point between the holes, and continue upward at an angle to 10 pts. above the top of the mouthpiece holes. During this operation, hold vent tool at right angles to the mouthpiece. When the depth is correct, turn the tool first to one side, then the other and widen the vents. This should be done till the sides of the vent slots are about 0.020 in. to 0.025 in. from the mouthpiece holes as shown in Fig. 3.

Never open the bottom of the slots with a mouthpiece tool. After the vents have been reworked as noted, carefully dress the mouth-

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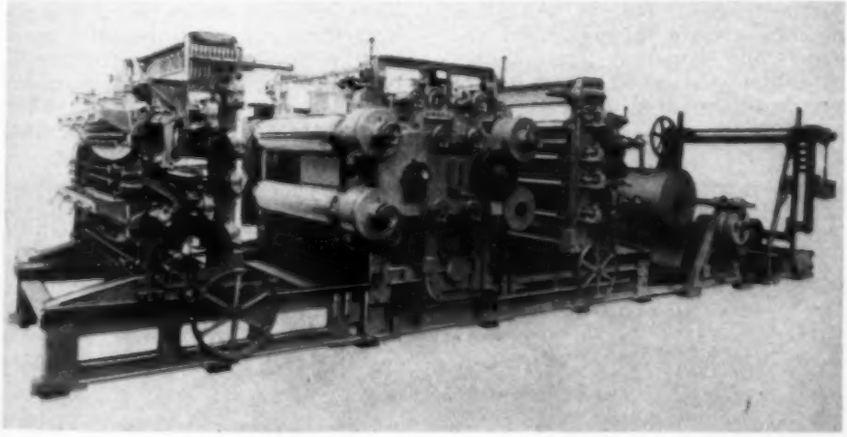
piece to remove burrs, and cast a number of slugs, adjusting the mouthpiece temperature to get the 1/16 in. to 1/32 in. jet projection —then check sprues. Each sprue should be from 1/2 in. to 3/4 in. in length during normal operation. If the sprue is too short, use a sharp pocket knife blade held in the bottom of the vent and tap the blade with a very light hammer. (If the blade is held at an angle the sprue will be directed toward the disk instead of on the mouthpiece shield.)

Be sure to dress the mouthpiece after venting to remove the expanded metal or the vent slots will close from subsequent casting.

It may take some time to get each slot even, but the time is well spent. Use of a graphite base material is not recommended for cleaning the mouthpiece as this material tends to harden from heat and pressure and fill the vent slots. A stick type metal flux is more satisfactory for this purpose as it cleans the slots and mouthpiece holes.



Press for Printing Multiwall Bags—A two and four color oil-ink press for printing on multiwall flour, sugar, cement, lime and other bags, was announced by Potdevin Machine Co. It is claimed that imperfect print-repeat lengths, which tend to cause waste in tubing, valving and sewing operations, are eliminated. Press is run at speeds of 600 to 800 ft. per min. An individual impression cylinder for each color is available. Other features are: Ink carriage rack-back; hydraulic impression lock; lateral and circumferential running register controls; 13 roll distribution system per color; Cameron double drum rewind; and canvas back or adhesive back rubber plates. For further details, please circle No. 279 on the Reader Service Card.

Casting Parts Detail

It is important to adjust the mold advance to lockup casting position according to the manufacturer's specifications. Carefully check the pot lever because mis-adjustment can prevent the pot backing the mouthpiece away from the mold between matrix line justifications.

The mouthpiece should be properly packed with asbestos and aligned so all jet holes are within the mold cavity on a 6 pt. 30 pica slug.

The pot and pump cam should have an abrupt drop off at the cast. Use of the quick-drop is not recommended except on very large faces. This is to be considered a last resort and only used in desperation, as the increased pressure and snap may tend to break down matrix sidewalls.

Front and back mold wipers must be kept in proper condition. Any metal which accumulates on

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the front or back of the mold will cause variation in the height of the letters on the slug.

Adjustment of knives is a subject all its own. It is important, however, that knives be properly adjusted to provide a true slug which is not off its feet. Otherwise the proof press operator will have an impossible job trying to print a good proof.

There are several basic requirements necessary in the production of good slugs from linecasting machines. It is not possible to make up a set of hard and fast rules for the operator to follow. Something that works on one machine may be a complete failure on another. If you are getting a good face and good slugs on your machine—leave it alone! However, if the face needs improvement, it may be well to follow through on the foregoing suggestions. Always bear in mind that each machine seems to have a "personality" and will not respond to changes in adjustment, heat, etc. as will other machines. Only through trial and error and constant maintenance attention can good reproduction proofs be produced from slug composition.

3M Promotion—Edmund G. Bartlett was promoted to Philadelphia branch sales manager, printing products division, Minnesota Mining & Mfg. Co. His territory will be the Eastern Seaboard states from Pennsylvania to Virginia.

Masking

(Continued from page 32)

during the deep-etching action, permitting it to bite and produce work only where the coating has been kept soft, and in this case masked.

There is a difference in the action of the stencil in the latter case and that of the photoengraver. The photoengraver produces a hardened stencil through his negative, this then representing the work. The unhardened or non-work areas will develop away, the metal there to be eaten away through the action of the acid, leaving the work standing in relief.

In photogravure, the hardened resist repels the action of the acid to the degree the stencil has been hardened, thus producing a difference in the depth of the work as well as the width of the dots. In this case, as in offset-lith deep-etch, the stencil is the non-work area.

Planning Pays Off

Ingenuity does take many forms in assembling a job. In shops handling a variety of work, many, or even all of the above forms of masking may be employed. In specialty shops, one standard form may be used steadily. This is exemplified in some book work shops. Here, offtimes many pictures or illustrations may be included on a page. To expedite matters, the pasteup may include a black mask for each cut or illustration. This mask, cut to the proper size and

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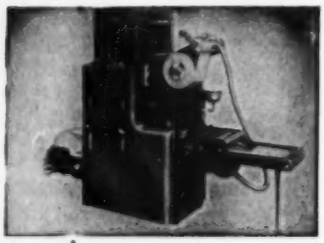

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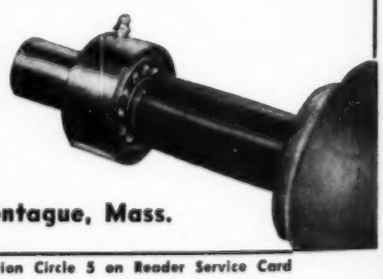

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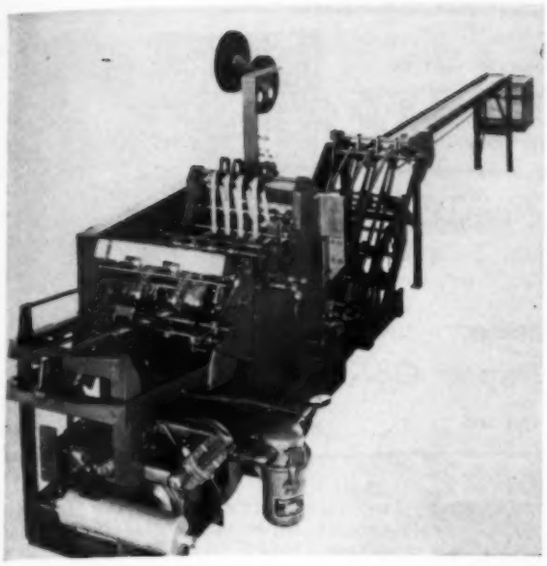

Labeling-Mailing Machine—Chicago Machinery Laboratory, Inc. has announced its McCain mailing machine which is said to adhere labels to as many as 30,000 pieces of mail per hr. Items such as magazines, folders, brochures, envelopes, etc., are fed into the machine from one end and strips of preprinted labels are fed from an overhead reel. Labels are mechanically detached from the strip and adhered to the mailing pieces as they move through the machine. Addressed matter is delivered by a series of conveyors to a collecting box. For further information, please circle No. 250 on the Reply Postcard.

shape of the final halftone, occupies its correct position on the pasteup. The mask may be circular, elliptical, rectangular or some such regular form (Fig. 5).

When these pasteups are photographed as line shots, the black masked spots appear as white windows on the negative, ready to receive the halftone. If very little space exists between the halftone areas and the text, then two line shots are made, one being used for the text and the other used in combination with the halftone and surprinted into the line on the plate. The pictures in this case are pasted up on a separate overlay and the halftone shot as one page, to be stripped in as a unit over the line shot with the window openings. Here we find a mask used in a slightly different and ingenious manner, adopting light reaction and the camera to consolidate the stripping operation.

Summing up, the big thing to remember is the step beyond the mask. What is being attempted? What is the final result to be?

In negative form, as the term might imply, the mask or anything that acts as a mask, represents non-work. One exception to this is the material, called Autopositive film. When this film is exposed under proper conditions in contact with a negative or positive, a duplicate will result.

However, when regular film is used under normal conditions a negative will result from contact with a positive, and a positive will be produced when regular film is contacted and exposed under a negative. This follows out the masking explanation outlined in the early part of this article. It also applies to any of the masking materials. But attention must be paid to the coating being used in selection of the proper mask.

Northwest Conference

(Continued from Page 40)

length sheet will be cut from a roll. It doesn't make any difference, he remarked, whether there is a bundle 2 in. or 20 in. high, the machine will compensate in the sheet-fed top half for the size of the bundle. The wrapping is applied in two stages, he explained, the bottom wrapper being applied first.

A representative of Gerrard Steel Strapping Co. disclosed his firm is coming out with automatic wire tying machines. One of the two machines to be introduced will be installed at the Milwaukee *Journal* and will be tied in with pusher, conveyor and other equipment. The expected speed of this machine will be 30 ties per min.

Six machines now being built include four small and two large-opening machines. These machines can be used with 14 to 18½ gauge wire. The Model 08 is set for 17 gauge wire, he said. A maximum of 24 ties per min. will be possible on the

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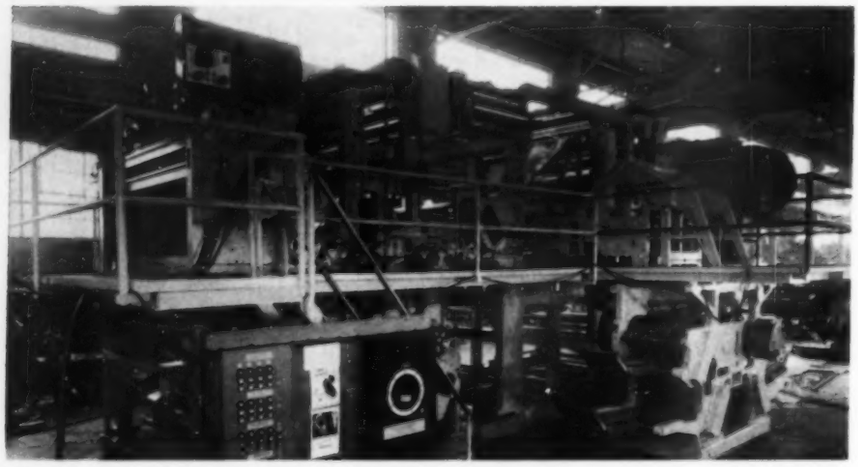

Levey Press at McCall's Plant—Fred'k H. Levey Co., Inc. is installing a four color Levey web offset press at McCall Corporation's Dayton, O., plant. The four color double-ender, which prints a 47 in. circum., will accommodate up to a 40 in. max. web and is equipped with a Levey steam drum drier. Two different cut-offs are allowed on the press folder; one is one-third of the press circumference, 15-2/3 in., with which the press will normally deliver three different 12 page signatures approx. 5½ in. by 15 2/3 in.

Model 12, the speaker claimed.

Principal speaker at the Northwest Conference banquet was Franklin D. Schurz, editor and publisher, South Bend (Ind.) *Tribune*, who spoke on *How to Shoot Goliath*, a discussion of methods for reducing high production costs, or at least holding the line on present cost levels. Other industries, Schurz said, have done much better in holding costs down than have those in the newspaper field and a look at their methods provides a clue to how this may be accomplished in the newspaper industry.

He named two major areas in which newspapers can attack this rising costs problem as follows: Better personnel through sounder hiring, more efficient training and improved supervision, and better machines, new equipment and new methods. He added that the choice of supervisors is extremely important and too often handled carelessly by promoting the most skilled men regardless of whether or not they have the necessary leadership ability.

In looking for a field where considerable savings can be made in production costs, Schurz recommended an examination of photocomposition, citing his own experience at the *Tribune* which has two Fotosetter machines and currently sets 9000 to 13,000 col. in. of advertising copy each week by this method. A saving of 5% below hot metal composition is being averaged by the Fotosetter composition, he said. In entering this field, he warned that temporarily costs will run high as the staff is being trained and is becoming accustomed to the new process.

Other fields in which savings can be achieved, Schurz said, are in the use of mat pack, the installation of Teletypesetter units and better equipment in the mailing room.

Composing Room Talks

The final day of the conference was devoted to a forenoon composing room clinic presided over by Otto Howard, composing room foreman, St. Paul *Pioneer Press* and *Dispatch* and Harvey Spanyers, Minneapolis *Star* and *Tribune*. Major talks were as follows: *Progress in Cold Type*

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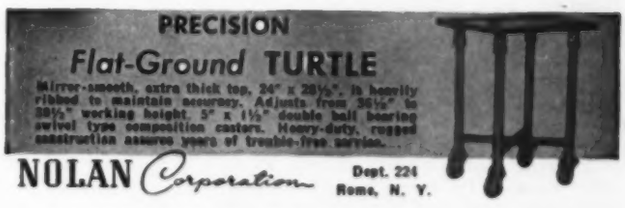
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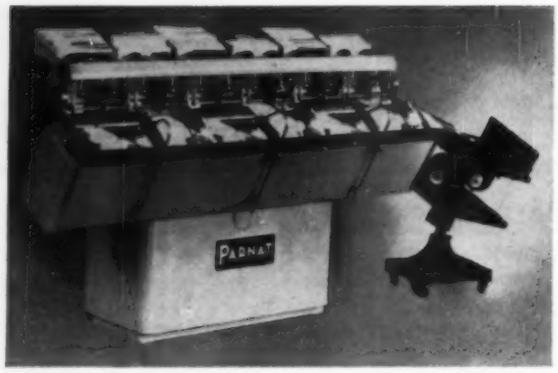
Methods, by Sheridan Skogen, Fotosetter Div. of Intertype Corporation; *Linofilm, The New Photocomposition System*, by Ralph S. Roth, Mergenthaler Linotype Co.; and *What Control Rooms Can Do for the Smaller Newspaper*, by Milton Thompson, dispatch room superintendent, St. Paul *Pioneer Press* and *Dispatch*. Skogen, explaining features of the Fotosetter, said the machine has been made more flexible by an extra principle which permits instantaneous mixing of fonts in the same line.

Some months ago, Skogen said, a new type of photographic paper was first used in the Fotosetter machine which has reduced the processing time to less than 5 min. Another advantage of this paper, he said, is dimensional stability, making possible a perfect reproduction proof in all cases. He suggested locating the photocomposition department near the engraving department for a smoother operation.

Skogen was queried at the end of his talk about training employees for Fotosetter operation. He pointed out that its mechanical operation is comparable to the Model 4 Intertype. It will take a competent operator approx. three weeks to learn the full technique, he added. As far as makeup is concerned, that varies. Intertype has established many paste-up schools.

Mr. Roth, speaking on the Linofilm photocomposition system, said that it not only performs the basic typesetting function, but also accomplishes the correction, enlarging and makeup functions. The system consists of four components—keyboard

Parnat Collator—A collator for gathering all kinds of sheet paper, carbon paper, signatures, folders, mats, greeting cards, etc., has been announced by Parnat Precision Machine Works, Inc. The collator can also be furnished with an attachment for nesting which will automatically insert in magazines, booklets, catalogs and folders any number of other leaflets, extra literature and return cards. Features of the Parnat collator are continuous feed and any number of stations with adjustable size for both the feeding bins and the conveyor stations. Minimum size is 3 in. by 4 in.; maximum is 19 in. by 23 in. For further information, please circle No. 257 on the Reader Service Card.



unit, photographic unit, and correction and composer. He also pointed out the speed of the keyboard is equivalent to that of an electric typewriter and the photographic unit operates up to a speed of 15 newspaper lines per min. Corrections can be made at a speed up to three lines per min., he claimed.

Roth declared that while photocomposition will undoubtedly find a wide application in both newspaper and commercial printing, it is apparent that it will not out-mode the hot metal process. In the question and answer period it was brought out that Linofilm tape can be identified with the job because it is visible and makeup instructions can be written on it; different point sizes cannot be mixed in the line; bastard point sizes can be obtained up to 108 pts.; the machine will automatically prevent setting of a tight line; rules are put in ads by use of a ruling pen.

In book setting on the Linofilm, Roth explained that if the copy runs over a half page, this can be corrected by figuring out how much must be cut back to make it fit. The leading can be changed after the keyboarding has been finished.

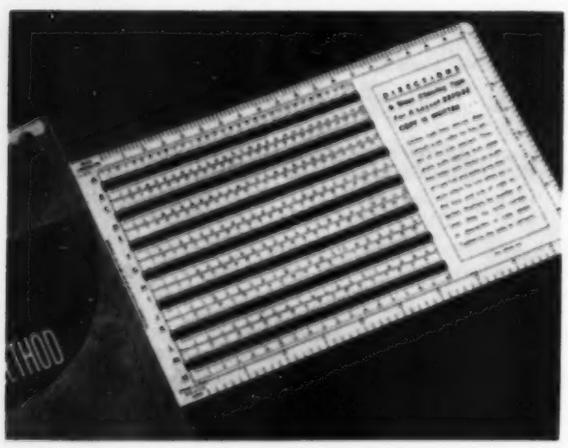
Control room operations at the St. Paul *Pioneer Press* and *Dispatch* were described next by Milton Thompson of that newspaper. The *Pioneer Press* and *Dispatch* control room also functions as a personnel feeder for the newspaper. Employees in that department, if found competent, are released to other departments, according to their own choice. Control room employment, he said, gives an opportunity to test employees and learn their qualifications.

Wants Increased Productivity

In a luncheon address, John Cowles, Jr., Minneapolis *Star* and *Tribune*, declared the most critical problem facing the newspaper field today is the failure of newspapers and their employees to increase productivity.

Cowles said that newspapers must change with the times or let more flexible and more efficient media take over. Changing with the times, he said, includes increasing the productivity of employees through use of better equipment and more efficient management.

The speaker said there is a need for new kinds of newspaper machinery, not just improvements on the old kinds. New equipment, he repeated, that uses radically different processes and techniques and the thinking should be toward adapting electronics developments. There must also be an upgrading in the skill and training of employees and better supervisors, he added.



Improved Copyfitting System—Arthur B. Lee has announced an enlarged new edition of his Streamlined Copy-Fitting system which he describes as a direct visual control method of copy casting. Listed in the manual, which is part of the system, are more than 1500 foundry, Linotype, Intertype, Monotype and Ludlow faces in sizes 4 to 24 pt. These are arranged alphabetically so that similar character counts may be compared at a glance. The system also includes a gauge for counting characters of any chosen type face, typewritten copy, agate lines, and number of lines of body type from 4 to 24 pt. Computation tables are provided for figuring total characters in lines up to 130 characters and in depths from 2 to 25 lines. For further information, please circle No. 258 on Reader Service Card.

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Dry Skin Cleanser: Remove all dirt and make-up quickly . .
2 for 99c
THE BEST—EASY TO COOK
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MODERN INTERTYPE mixers slash composing room costs by setting complicated copy such as grocery, drug, fashion and classified display virtually at straight matter speed. These machines set type up to 60 pt. in size right from the keyboard. The finger-flip shift permits instant assembly of matrices from adjacent magazines. The power shift makes changing magazine position quick and effortless. The Six-Mold Disk adds 50% more mold capacity and banishes mold liner changes. Continuous distribution eliminates waiting for matrices to distribute.

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